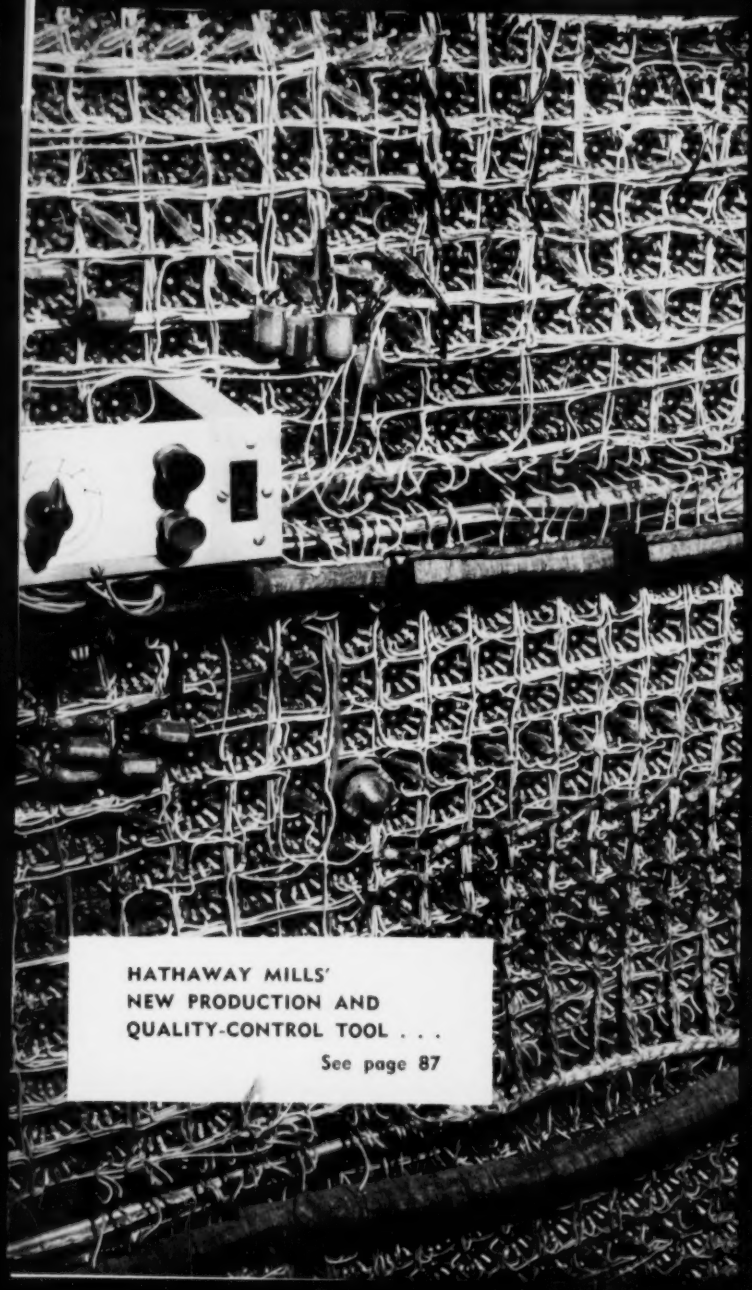
TEXTILE WORLD

JULY • 1952



HATHAWAY MILLS'
NEW PRODUCTION AND
QUALITY-CONTROL TOOL . . .
See page 87

ARTICLES IN THIS ISSUE DISCUSS:

Fiber Quality Control 87
Fabrics Woven Here 92
Spinning Continuous Nylons 95
Research Projects Underway 97
Yarn Package Standards 98
Management Responsibilities 100
Spots of Synthetic Fibers 102
Spinning Carpeting Synthetics 103
Using Tri-Chem Synthetics 104
Roving Problems Card Roving 105
Weaving Problems in Georgia 107
Cotton Spinning Discussion 112
Answers to Spinning Problems 113
New Draft Gauge Attachment 114
Worsted Quality Control 116
Cotton Spinning Cloth Value 119
Carbonizing Machines 121
Chemical Points in Dyeing 125

★

PRICE 35 CENTS PER COPY

★

INDEX TO ADVERTISERS
CLASSIFIED BY PRODUCT

Serving the Great Names in Textiles

Fieldcrest

Fieldcrest Mills
Division of
Marshall Field & Company
Spray, N. C.

Alabama Mills
American Bemberg Corporation
Cabin Crafts, Inc.
Chicopee Manufacturing Co.
Cluett, Peabody & Co., Inc.
Crompton & Co.
Crystal Springs Bleachery
Davenport Hosiery Mills
Dixie Mercerizing Co.
Goodyear Tire and Rubber Co.
Mt. Vernon-Woodberry Mills, Inc.
Muscogee Manufacturing Co.
Peerless Woolen Mills
Pepperell Mfg., Co.
Standard-Coosa-Thatcher Co.
Swift Spinning Mills
The B. F. Goodrich Co.
The Springs Cotton Mills
Thomaston Mills
West Point Manufacturing Co.
United Merchants & Manufacturers, Inc.

Design for Quality

In many cases, consistent quality of a product can be traced directly to the layout and design for the manufacturing plant. Careful planning from the very beginning is vital to efficient production . . . the prime factor of quality.

Fieldcrest Mills, a leader in quality textile production, is an outstanding example of such sound planning. In the past two decades, Robert and Company Associates has been privileged to work on 44 projects for this division of Marshall Field & Co., Inc., including cotton textile mills, dyeing and finishing plants, and full-fashioned hosiery.

Our complete staff of 250 is especially qualified to provide layouts and designs for all types of projects related to the textile industry.

Our on-the-spot knowledge of the South will help you from the very start to speed completion of your Southern building program.

Textile Engineering Division

ROBERT AND COMPANY ASSOCIATES

ATLANTA

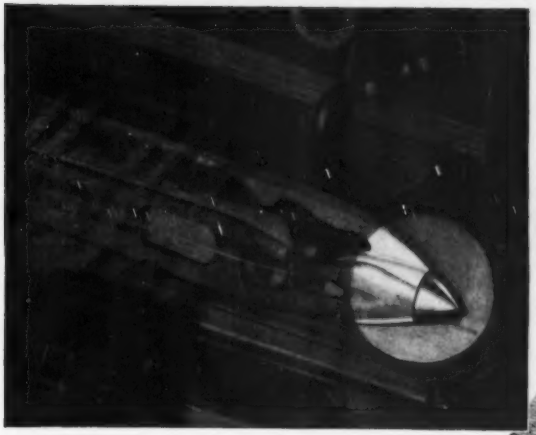
TEXTILE WORLD, Vol. 102, No. 7, July, 1952. Published monthly McGraw-Hill Publishing Co., Inc. (Bragdon Lord & Nagle Division). Publication Office, 99-129 North Broadway, Albany, N. Y. Editorial and Executive Office, 330 W. 42nd Street, New York 36, N. Y.

Subscriptions: Address correspondence to TEXTILE WORLD—Subscription Service, 99-129 North Broadway, Albany 1, N. Y., or 330 West 42nd Street, New York 36, N. Y. Allow ten days for change of address.

Subscriptions are solicited only from executives, engineers, and technicians in textile manufacturing or finishing plants. Position and company connection must be indicated on subscription orders.

Subscription: United States and possessions, $2.00 a year, $3.00 for two years, $4.00 for three years. Canada, $3.00 for one year, $5.00 for two years, $6.00 for three years. Other Western Hemisphere, $10.00 for one year, $16.00 for two years, $20.00 for three years. All other countries $15.00 for one year, $25.00 for two years, $30.00 for three years. Entered as second class matter August 23, 1936, at Post Office, Albany, N. Y., under the act of March 3, 1879. Printed in USA. Thirty-five cents per copy.

50% GREATER HOLDING POWER!

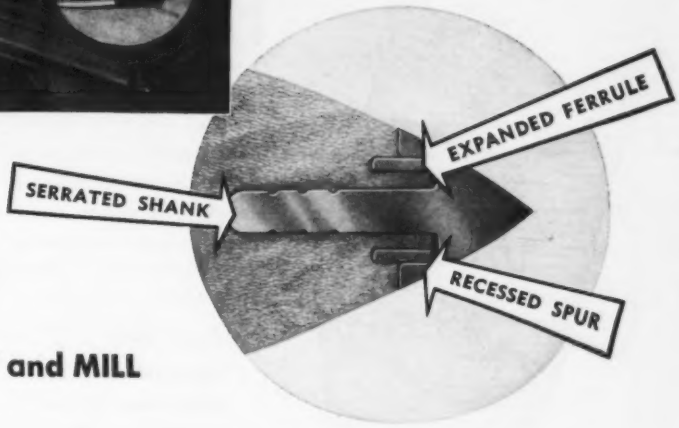


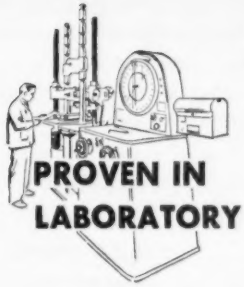
with the NEW

DRAPER

Recessed

SHUTTLE SPUR*





PROVEN IN LABORATORY and MILL

Having 50% greater holding power, the Draper Recessed Spur resists the common shuttle spur tendency to loosen, revolve, and move off-center. It can be supplied with or without a fibre washer.

The Draper Recessed Spur has been proven in the laboratory and in an ever increasing number of mills for more than four years.

3 WAY HOLDING ACTION!

Ask to have the Draper Recessed Spur incorporated in your shuttle today.

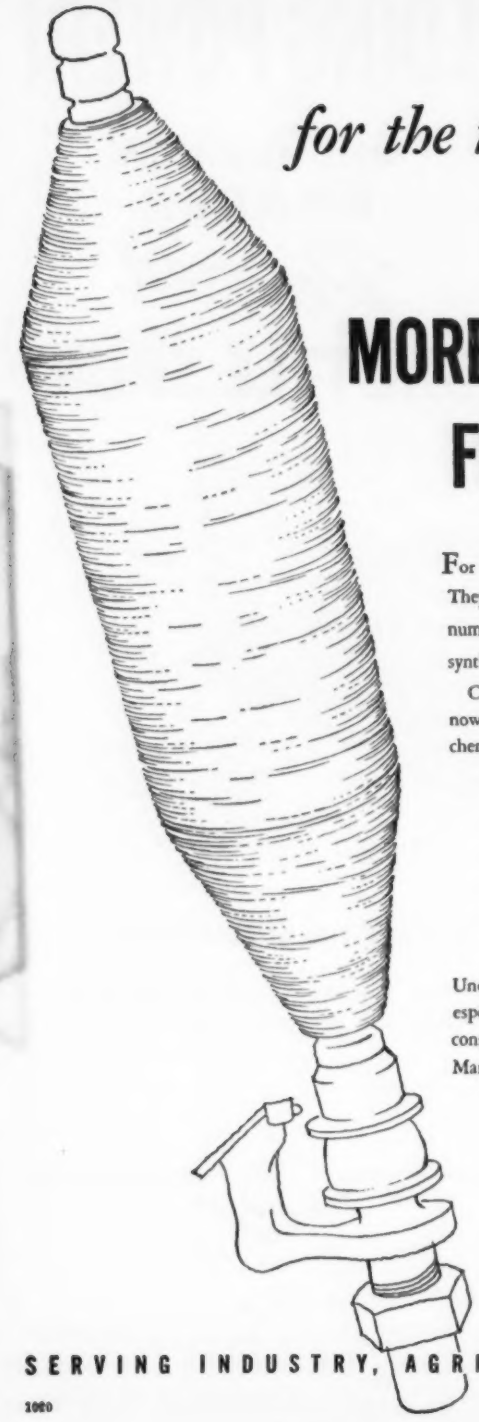
*PATENTED

"Retaining Leadership through Research"

DRAPER *Corporation*

ATLANTA, GA. HOPEDALE, MASS. SPARTANBURG, S. C.

THE WORLD'S LARGEST MANUFACTURER OF AUTOMATIC LOOMS



for the textile industry . . .

MORE BASIC CHEMICALS FROM MATHIESON

For fibers, fabrics and finishing methods, certain chemicals are basic. They're essential to the production of synthetic fibers and vital to numerous chemical processes employed to transform both natural and synthetic fibers into the many modern textiles we know today.

Closely associated with the textile industry for 60 years, Mathieson now supplies more basic chemicals than ever before . . . such important chemicals as:

Caustic Soda	**Soda Ash**
Liquid Chlorine	**Ammonia**
Hypochlorite Products	**Sodium Chlorite**
Bicarbonate of Soda	**Sulphuric Acid**
Ethylene Oxide	**Diethylene Glycol**

Triethylene Glycol

Under current market conditions, a dependable source of supply is especially important. You may be able to buy *to better advantage* by consulting with us now. Mathieson Chemical Corporation, Baltimore 3, Maryland.

Mathieson
CHEMICALS

SERVING INDUSTRY, AGRICULTURE AND PUBLIC HEALTH

1020

For more information, write direct or use Reader Service post card.

TEXTILE WORLD

PUBLISHED MONTHLY

A McGraw-Hill Publication

Edwin D. Fowle . . . . Publisher

Greenville Staff

Prentice M. Thomas . . . . . Editor-in-Chief
James H Kennedy . . . . . *Southern Editor*
Richard B. Pressley . . . . . *Assistant Editor*

New York Staff

Richard C. Scott . . . . . *New York Editor*
George M. Moisson . . . . . *Assistant Editor*
Louise E. Wilie . . . . . *Production Editor*
Gloria J. Meeks . . . . . *Editorial Assistant*
Robert McK. Fink . . . . . *Art Director*

E. H. Helliwell *Contributing Editor (New England)*
H. S. Knowlton . . . . . *Contributing Editor (Boston)*
Russell F. Anderson . . . . . *World News Director*
George B. Bryant, Jr. . *Chief, Washington Bureau*
Dexter Keezer . . . . . *Economic Director*

Consulting Editors

C. Norris Rabold . . . . . *Finishing*
Francois E. Cleyn . . . . . *Worsted Spinning*
Gustav Zellnik . . . . . *Woolen Spinning*
Henry D. Grimes . . . . . *Wool Chemistry*
Eugene P. Schremp . . . . . *Weaving*
W. C. Westbrook . . . . . *Weaving*
R. P. Shapard, Jr . . . . . *Knitting*
H. B. LeFeaux . . . . . *Knitting*
William A. Newell . . . . . *Textile Research*

William Buxman . . . . Manager
W. B. Dall . . . . . *Assistant to Manager*
Thomas Macaluso . . . . . *Production Manager*

PUBLICATION OFFICE: 99 N. B'way, Albany 1, N. Y.

EDITORIAL AND EXECUTIVE OFFICES, 330 W. 42nd Street, New York 36, N. Y., 201 E. Coffee St., Greenville, S. C.

JAMES H. McGRAW (1860-1948), Founder.
CURTIS W. McGRAW, President.
WILLARD CHEVALIER, Executive Vice President.
HENRY G. LOBB, Vice President.
JOSEPH A. GERARDI, Vice President and Treasurer.
JOHN J. COOKE, Secretary.
PAUL MONTGOMERY, Senior Vice President, Publications Division.
RALPH B. SMITH, Editorial Director.
NELSON BOND, Vice President and Director of Advertising.
J. E. BLACKBURN, JR., Vice President and Director of Circulation.

DISTRICT OFFICES:
BOSTON 16, Ralph L. Chisholm, Dist. Mgr., 350 Park Square Bldg.
CHICAGO 11, M. C. MacKenzie, Dist. Mgr., 520 North Michigan Ave.
NEW YORK 36, Arch W. Fisher, Dist. Mgr., 330 West 42nd St.
John C. White, Jr., Dist. Mgr., 330 W. 42nd St.
PHILADELPHIA 3, H. C. Harvey, Dist. Mgr., Architects Building, 17th and Sansome Sts.
CLEVELAND 15, John G. Sabella, Dist. Mgr., 1510 Hanna Building.
GREENVILLE, S. C., and TRYON, N. C., Wm. G. Ashmore, Dist. Mgr., 201 E. Coffee St., Greenville, S. C., or P. O. Box 1337, Tryon, N. C.
WASHINGTON 4, National Press Building.
OTHER OFFICES: Atlanta 3; Dallas 1; Detroit 26; Los Angeles 14; St. Louis 8; Pittsburgh 22; San Francisco 4; London E.C. 4; Paris 7; Frankfurt; Rio de Janeiro; Buenos Aires; Mexico City; Manila; Tokyo; Bombay; Melbourne E. 4; Toronto 4.

Contents copyright 1952, by McGraw-Hill Publishing Co., Inc. (All rights reserved)

Member of
Audit Bureau of Circulations
Associated Business Publications, Inc.

Departments

Editorial	4
Exploring the Textile Community	133
Kinks and Short-Cuts	154
Mill Maintenance	186
New Dyes and Chemicals	148
News About Men	241
News About Mills	234
News About Suppliers	246
News of the Month	280
Obituary	256
Pointers for Supervisors	131
Questions and Answers	232
Reader Service	167
Review of Books	182
Round Table	151
Textile Equipment News	135
Textile Calendar	240
Textile Tickles	151
Advertisers' Index	277

Table of Contents

JULY • 1952

Vol. 102 No. 7

KEYED ACCORDING TO READER INTEREST

Feature Articles

SPINNER	WEAVER	KNITTER	FINISHER	ENGINEER			COTTON	SYNTHETICS	WOOL
Y	W	K	F	E	Maybe It Won't Happen in the South	4	C	S	W
Y	W	K	F	E	Hathaway Controls EFFICIENCY & QUALITY	87	C	S	W
Y		K			KNITTER & DYER Must Cooperate	92		S	W
		K			NYLONS Knitted with 40-Tpi. Yarn	95		S	
Y					What Average Percent UNEVENNESS Means	96	C		
Y					Mills Set UNEVENNESS STANDARDS	98	C		
	W				How LOOMFIXER Should Run Section	100	C	S	W
Y	W	K	F	E	ABC's of SYNTHETIC FIBERS	102	C	S	W
Y					Mill Men Explore SYNTHETICS PROBLEMS	103	C	S	
Y	W				This Is the Way To SLASH SYNTHETICS	104		S	
Y					Intermediate Feed Improves CARD ROVING	105			W
Y					CARDING PRACTICES in Georgia Mills	108	C	S	
Y					ALABAMA TOE – Spinning Discussion	112	C	S	
Y					STA Men Discuss SPINNING PROBLEMS	113	C	S	
	W				Improve Fabrics With SRRL ATTACHMENT	114	C	S	
	W				Quality-Control Program for WEAVING	116	C	S	
	W				Index Shows DOLLAR VALUE of Cloth	119	C	S	
Y					EUROPEAN MACHINES Have Novel Features	121	C	S	
			F		Critical Points in FABRIC COATING	125	C	S	W

Textile Equipment News

		K			Terry STRIPER Knits Extra-Long Loops	135	C	S	
	W				STOP MOTION for Any Type Cone Creel	135	C	S	W
			F		DYE REEL Has V-Bars for Gripping	136	C	S	W
Y					MICROTOME Cuts to Five-Millionths	136	C	S	W
Y					Long-Draft APRONS Detachable as a Unit	138	C	S	W
		K			Multi-Design for Fancy-Pattern MITTENS	138	C	S	W
Y					Plastic CONES Cut Jute-Winding Costs	140	C	S	W
		K	F		STATIC ELIMINATOR Eases Tricot Spreading	140		S	
	W				Hy-Du-Lignum PICKER STICKS Available	140	C	S	W
	W				INSTRUMENT Checks Moisture Performance	142	C	S	
Y					TORSION BALANCES Cut Weighing Time 80%	142	C	S	W
	W				Rayon Cake Holder Has Adjustable TENSION	144		S	
			F		Flat-Bed SEWING MACHINES Improved	144	C	S	W
	W				CHECK STRAP Features Satin Finish	144	C	S	W
			F		New DYEING MACHINE for Fine Knit Goods	146	C	S	W
	W				Filling BOBBIN Usable With All Yarns	146	C	S	W
Y					All-Fiber BLEND BOX Developed	146	C	S	W
Y			F		A New Tufted Type Metal-Core BRUSH	148	C	S	W
Y	W	K	F	E	HUMIDITY Controlled Automatically	226	C	S	W
Y	W	K	F	E	WATER CONTENT of Products Measured	228	C	S	W
	W				Indicator Warns BEAMERS With a Light	230	C	S	W

Kinks and Short-Cuts

Y					Spinning Frames Give Big TWISTER PACKAGE	154			W
	W				We Made Our BINDER PRESS	154	C	S	W
	W				Nine-Point Program To Stop SHUTTLE MARKS	154		S	
	W				How We Stopped Breakage of HARNESS CORD	156	C	S	W
	W				Rearranging Guard Increases SHUTTLE LIFE	156	C	S	W
	W				Check CENTER-FORK Setting With Short Reed	158	C	S	
				E	Hold Parts Without Damaging THREAD	158	C	S	W
				E	EXTRACTING TOOL for Ball Races	160	C	S	W
Y					BALE-TAG System Makes Mistakes Difficult	160	C		
				E	Let a Switch Watch Your WATER LEVEL	160	C	S	W
Y					CLEARERS Held by Scavenger-Roll Holders	162	C	S	
Y		K			Slot Replaces Pigtail To Prevent CUTTING	162			W
Y	W	K	F	E	Red Float Indicates FIRE-BUCKET Level	162	C	S	W
	W				We Use a Stand To Store LOOM HARNESSES	164	C	S	W
Y					Bar on Level Sets GUIDE HOLDERS Evenly	164		S	
	W				Our Harness DOBBY CHAINS Don't Split	164	C	S	W
			F		How We Cool Kiers During NAPHTHOL DYEING	164	C	S	W

THE Long-Range VIEW

Maybe It Won't Happen in the South

In September, 1951, on this page we published an editorial entitled "It Can Happen in the South." The editorial warned that conditions that have made New England unfavorable for the textile industry could be repeated in the South and outlined a four-point program to help safeguard Southern mills against those conditions.

We are pleased to report that specific action—some of it new, some of it not new—is evident along the four lines of activity discussed in that editorial. In the hope that more mills and associated organizations—not only in the South, but also in every other area where the textile industry is located—will originate individual action or join in group action, we review here those four points and briefly summarize some of the things now being done.

Point No. 1 was Political Action. This statement was made: "If all textile workers were alert voters and all mills saw that their employees understood the issues at stake in every election, the textile industry would be in a favorable position in local and state politics."

Last week (at the time of this writing) we saw a cotton mill in the South taking positive steps to get its 1,200 employees registered to vote. Many workers—young, middle age, and elderly—who had never registered nor cast a vote were being given time off from their jobs and provided transportation to the registration office. When voting time comes, this mill will be in a position to influence by suggestion 1,200 votes—a significant force in most local elections.

An unexpected by-product of this action by the mill was the boost it gave worker morale. We talked with a few of the workers who had registered, most of them for the first time in their lives. A spark of excitement was evident in them. They were pleased that the company was interested in them, and they had an unusual interest in politics.

Point No. 2 of the editorial was Labor Action. This statement was made: "Ways must be found to preserve a labor force that has vigor and competitive spirit, that appreciates advancing technology, and that takes a realistic view toward workloads and pay."

Of course, there is no magic formula for labor relations. The whole burden rests on mill management, and fortunately management attitudes are steadily improving and better labor-relations tools are being adopted. Among them are:

Aptitude and psychological tests that help personnel departments place workers in jobs most suitable to them

Profit-sharing plans that impress the idea of partnership on workers

Flexible workloads that change from day to day, as work runs good or bad, to keep actual work constant

Wage raises based entirely on savings made by better machinery or methods

Point No. 3 was Public Action. The heart of this point was: "Towns, counties, and states should be cultivated and educated for a new outlook on industry. A mill is not just a business. It is an institution that contributes mightily to the life and activity of a community, state, and region."

One impressive thing being done in the Spartanburg-Greenville-Anderson area of South Carolina is a program of mill tours by the State Legislature. Started, we think, by the Spartan Mills group in Spartanburg, these tours are aimed at giving every South Carolina legislator a first-hand knowledge of mills, workers, conditions, etc.

Perhaps the most successful tours we have ever attended are the Spring tours at Avondale Mills in Alabama. By far the most impressive feature of these tours is the enthusiastic participation by workers.

Vastly more could be profitably done throughout the industry by mills dramatically demonstrating what and how they contribute to the life of their communities.

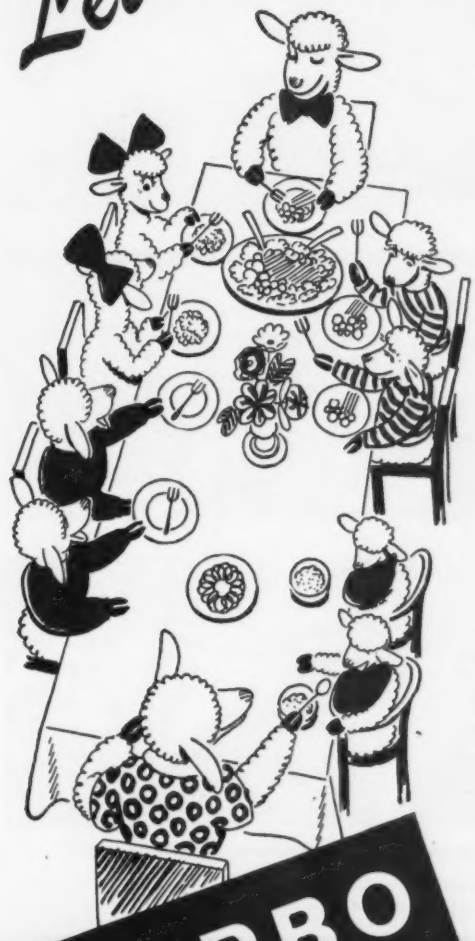
Point No. 4 of the September editorial was Management and Plant Action. The gist of this point was: "A continuing educational program by a staff of experts should be carried on to encourage constant plant modernization and management improvement."

The most significant new thing along this line that we know of is a technical society just organized for the purpose of providing a shirt-sleeve round table for experts in management and production techniques. No publicity can be given this society. Membership is by invitation, and meetings are held behind closed doors so that specific management problems can be freely discussed.

These various activities are not organized in any central way. As you can readily see, they are sparked by individual mills or groups. The important thing is that broad constructive steps are being taken. We hope that in the months ahead we shall see more abundant evidence of serious mill participation in actions aimed toward their own long-range success and toward preserving a healthy business climate for the textile industry.

J. H. Thomas

Let's talk RESULTS . . .



Here is the machine that has set the industry talking. It preboards with steam or boards with heated air. Production is 120 to 130 dozen pairs of static-free stockings per 8-hour day . . . with *one* operator.

That's the Turbo AD 48.

Automatic timing takes the guesswork out of hosiery finishing. Form movement in and out of the chamber can be automatic or not, depending on the production rhythm of the operator.

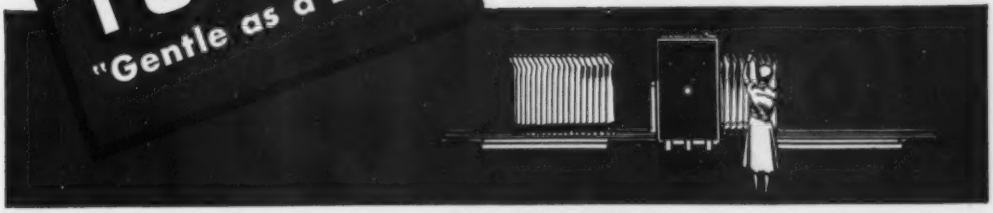
48 forms, in two groups, glide in and out of the finishing chamber smoothly, evenly, as gently as a lamb. Precious stockings are treated with the fine care they deserve. Leg forms stay upright — fabric won't creep. They stop at an angle calculated for maximum ease in inspection, dressing and stripping. There is ample space between stopped forms for speedy handling. You can run two sizes at one time, forms are quickly and easily changed.

Precision engineered to the last detail, backed by actual production records in the industry, a Turbo AD 48 represents a sound investment toward hosiery quality.

Write today for the complete Turbo story on boarding and preboarding equipment. See it in action, there is probably a Turbo Machine in your area now.

TURBO MACHINE COMPANY
Lansdale, Pennsylvania, U.S.A.
Southern Rep.: F. W. Warrington Co., Charlotte, N. C.

TURBO
"Gentle as a Lamb"

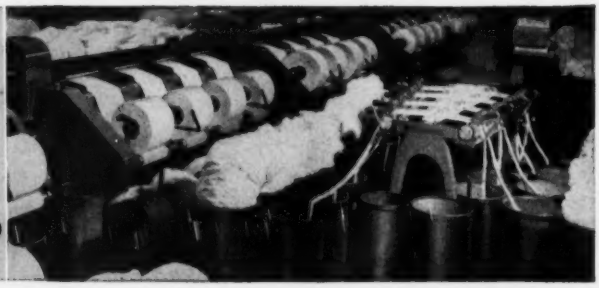


Here are a few quotes from

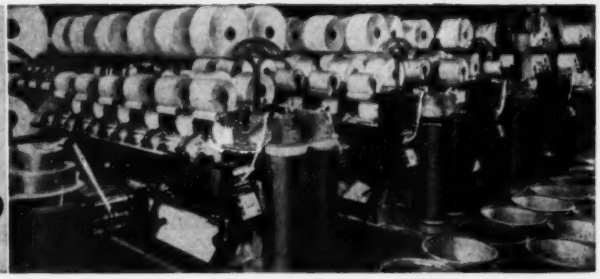
Fitchburg Yarns

the publication of
Fitchburg Spinners Sales Corporation
which represents Fitchburg Yarn Company,
Watatic Spinning Mills, Inc. and
Wachusett Spinning Mills, Inc.
long-time users of Saco-Lowell equipment.

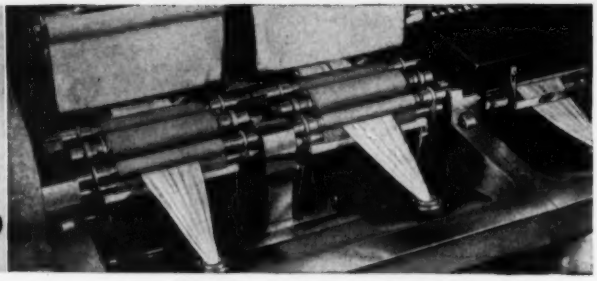
"**ENDS X ENDS X ENDS**... part of the formula for producing a better quality yarn, faster. These new lap winders and drawing frames combine 320 ends into a ribbon lap where previously it had been possible to join only 64. Laboratory tests prove the sliver is evener and better prepared for the next step, the comber."



"**TWO HEADS ARE BETTER THAN ONE**... and these new combers prove it by producing three times as much as the old style. Better than that the yarn is cleaner and the combing much more complete. Variation in the sliver from these combers has been cut by 50%."



"**NEW DRAFTING**... with improved rolls that turn at precisely controlled speeds has reduced variation in this operation. Yarn is drafted evenly by vari-sized rolls, each turning at a carefully set speed. With short fibres removed in the comber the 1,920 ends are now joined in a single even sliver."



These are important results of careful production testing in the manufacture of quality yarns.

On request, a Saco-Lowell engineer will gladly discuss with you the many features of Saco-Lowell Combers and 3-over-4 Drawing Frames.

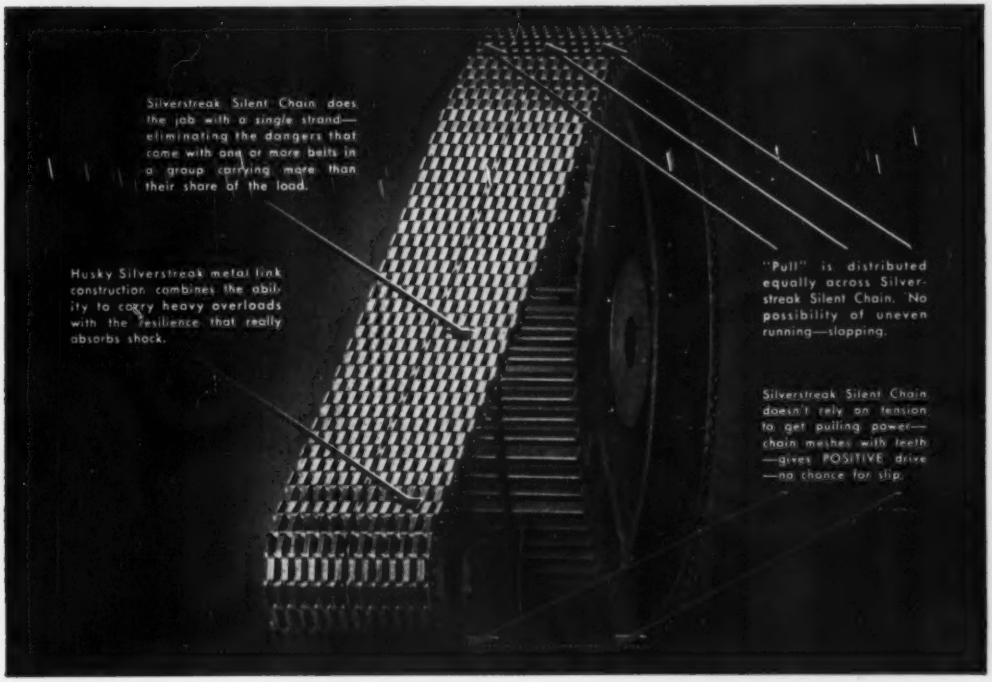
SACO-LOWELL

60 BATTERYMARCH STREET, BOSTON 10, MASS.

Shops at BIDDEFORD, MAINE and SANFORD, N. C.

SALES OFFICES CHARLOTTE • GREENVILLE • ATLANTA

Here's the proved way to transmit high hp at high speeds...


Silverstreak Silent Chain does the job with a single strand—eliminating the dangers that come with one or more belts in a group carrying more than their share of the load.
Husky Silverstreak metal link construction combines the ability to carry heavy overloads with the resilience that really absorbs shock.
"Pull" is distributed equally across Silverstreak Silent Chain. No possibility of uneven running—slapping.
Silverstreak Silent Chain doesn't rely on tension to get pulling power—chain meshes with teeth—gives POSITIVE drive—no chance for slip.

Link-Belt Silverstreak Silent Chain drives are slip-proof...slap-proof...shock-proof

ON thousands of applications... under all types of operating conditions—Link-Belt Silverstreak Silent Chain Drives have proved their effectiveness and durability. High horsepowers and high speeds are delivered with the same trouble-free efficiency (over 98 per cent) as on less demanding loads. There's a power-transmission engineer in the Link-Belt office near you.

LINK-BELT

SILVERSTREAK SILENT CHAIN DRIVES

12.450

LINK-BELT COMPANY: Chicago 9, Indianapolis 6, Philadelphia 40, Atlanta, Houston 1, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8, Springs (South Africa), Sydney (Australia). Offices, Factory Branch Stores and Distributors in Principal Cities.

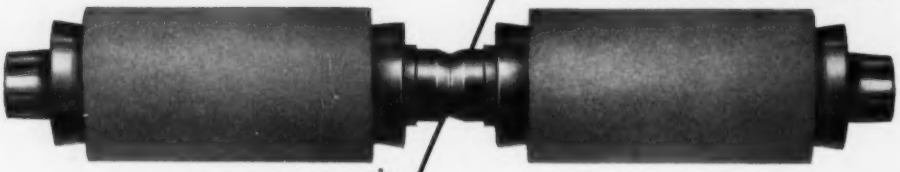
As it has since 1940, a touch of the control button brings exact press speeds at the New York Herald Tribune. In those 12 years, there has been no replacement required on the two 100 hp Silverstreak Silent Chain Drives that power this press at chain speeds up to 3664 fpm.

MORE THAN 100,000

SACO-LOWELL-TORRINGTON

S-L-T NEEDLE BEARING TOP ROLLS

are saving time formerly required for ROLL PICKING... up to 40% and 50%!



These figures are reported by mills * that are noted for their efficient, capable management — and the remarkably high quality of their products.

Roll picking is very costly. S-L-T Top Rolls *eliminate half the time* formerly required, because:

1. The smooth finish of the exposed metallic portions of the roll shed lint *almost automatically;* and
2. Sealed-in lubrication means that there is no surface oil to collect lint or dust.

Write for illustrated folder which gives complete data on the many features of S-L-T Top Rolls for roving and spinning. Address our nearest Sales Office.

Your frames are clean, your yarn is clean.

S-L-T TOP ROLLS are standard equipment on the new

SACO-LOWELL GWALTNEY SPINNING FRAME

* Names on request.

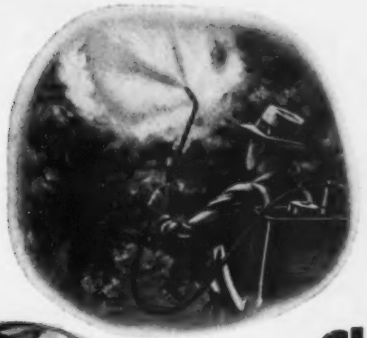
S-L-T- TOP ROLLS are manufactured by THE TORRINGTON COMPANY, Torrington, Conn., and are available exclusively through

SACO-LOWELL

60 BATTERYMARCH STREET, BOSTON 10, MASS.

Shops at BIDDEFORD, MAINE and SANFORD, N. C.

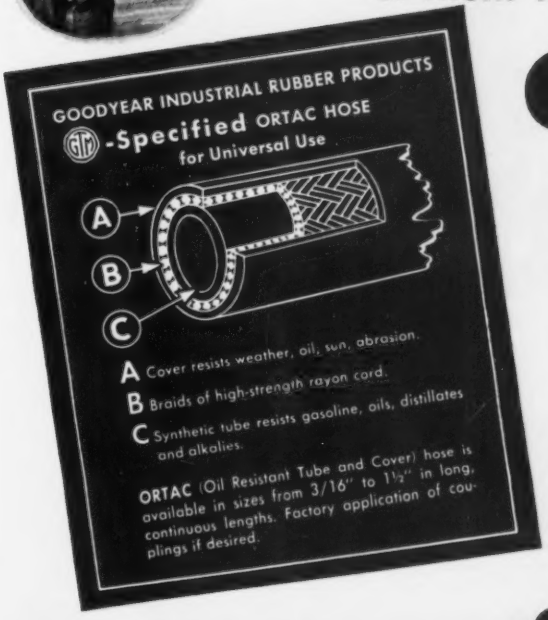
SALES OFFICES CHARLOTTE • GREENVILLE • ATLANTA



Check Your Hose Needs–

and answer most of them with

ORTAC


GOODYEAR INDUSTRIAL RUBBER PRODUCTS
GR-Specified ORTAC HOSE
for Universal Use
A
B
C
A Cover resists weather, oil, sun, abrasion.
B Braids of high-strength rayon cord.
C Synthetic tube resists gasoline, oils, distillates and alkalies.
ORTAC (Oil Resistant Tube and Cover) hose is available in sizes from 3/16" to 1½" in long, continuous lengths. Factory application of couplings if desired.

GOODYEAR's ORTAC hose (Oil Resistant Tube and Cover) simplifies your hose-buying problems. For this *one construction* was designed by the G.T.M.—Goodyear Technical Man — to perform *many* assignments.

ORTAC will handle gasolines, fuel oils and distillates. It resists attack from alkalies, as well as the contaminants found in water. Excellent, too, for air and spray service. Its cover resists sun, weather and wear — ORTAC has a tube which will not flake, swell or discolor. Available in long, continuous lengths.

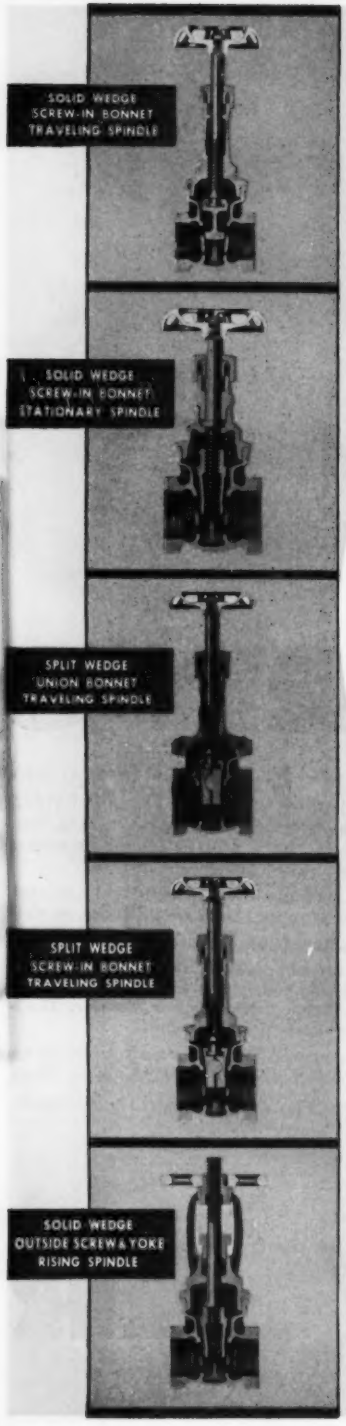
Ask your nearest distributor for full details on ORTAC—or write Goodyear, Akron 16, Ohio.

LOOK FOR YOUR GOODYEAR INDUSTRIAL RUBBER PRODUCTS DISTRIBUTOR in the yellow pages of your Telephone Directory under "Rubber Products" or "Rubber Goods." He handles Hose, Flat Belts, V-Belts, Molded Goods, Packing, Tank Lining, Rubber-Covered Rolls built to the world's highest standard of quality.

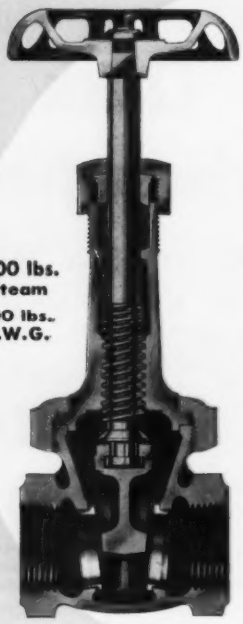
GOODYEAR

THE GREATEST NAME IN RUBBER

Ortac—T.M. The Goodyear Tire & Rubber Company, Akron, Ohio



Specify JENKINS for your Best Buy in Bronze Gates



200 lbs. Steam
400 lbs. O.W.G.

JENKINS FIG. 270-U
Solid Bronze Wedge
and FIG. 270-UN
Nickel Alloy Wedge
Traveling Spindle — Union Bonnet
BRONZE GATES

Monel and Bronze Seating Combination Adds Years of Extra Service Life

In Fig. 270-U, a high quality bronze wedge seats against MONEL rings expanded in the body. With this sensible design, the wear affects only the most accessible part—the bronze wedge—which can be easily replaced by slipping a new one on the stem when necessary. Records in every type of service prove it an excellent combination for lasting economy.

Fig. 270-UN, with a nickel alloy wedge, is recommended for exceptionally severe conditions of rapid wear and corrosion.

The Gates For Your Toughest Services

Made in sizes from ¼" to 2", Fig. 270-U or Fig. 270-UN will provide unequalled economy in any 200 lb. steam, 400 lb. O.W.G. service. Compare performance, especially where conditions are most destructive to valves, as in oil refineries, dye houses, chemical, rubber, and food plants. You'll find there are no other valves like them.

Whatever your need in Bronze Gates, you'll find the right valve for the service in Jenkins complete line. Thirty-five different patterns are available for steam pressures up to 300 lbs., O.W.G. pressures up to 600 lbs. All are built to Jenkins unvarying high standard which makes them the longest-lasting, lowest-upkeep valves that money can buy. Jenkins Bros., 100 Park Ave., New York 17. Jenkins Bros., Ltd., Montreal. Sold through leading Industrial Distributors.

WRITE FOR THIS FOLDER Form 181-B It describes the Fig. 270-U and other popular Jenkins Bronze Gates or, ask your Jenkins Distributor.

JENKINS
LOOK FOR THE DIAMOND MARK
VALVES
SINCE 1864 JENKINS MARK

Jenkins Bros

Men in the Know...

buy Schlafhorst Machinery for Winding and Warping

The illustration shows 24 Automatic Quillers of our "AUTOCOPSER SE1" pattern, of 12 spindles each.

Write for information to the Sole Makers:

W. SCHLAFHORST & CO.

M. GLADBACH GERMANY

Yours for the asking...

A New Manual of Information

Every Textiles Executive Will Want

This unique 60-page manual, compiled by Burroughs for the textiles industry, contains information covering practically every phase of the business of textiles. It points the way to better and more profitable accounting methods for yarn and cloth mills and for garment factories. It is also a valuable training and reference book that will find many uses in the entire textiles industry.

"Textiles Accounting" is divided into two sections. The first gives you a simplified explanation of the industry, its organization and functions—from the manufacture of yarn and cloth, bleaching, dyeing and finishing—to the manufacture of garments and cloth products and their distribution. The second part contains an unprecedented summary of the modern accounting methods that textile firms are now using together with flow charts and detailed forms.

"Textiles Accounting" is yours for the asking. Call or write your nearest Burroughs office, listed in the yellow pages of your telephone book, or mail the coupon.

BURROUGHS ADDING MACHINE COMPANY,
DETROIT 32, MICHIGAN

I would like to have a copy of your book, "Textiles Accounting."

Name_____

Company_____ Title_____

Address_____ City_____ Zone____ State____

WHEREVER THERE'S BUSINESS THERE'S

Burroughs

HYDROGEN PEROXIDE

for OXIDATION of VAT DYES on Cotton and Synthetics

CLEAN . . . FAST . . . SIMPLE

Process details are described in our Bulletin No. 38. Please ask for it.

BECCO
PEROXYGEN
CHEMICALS

BUFFALO ELECTRO-CHEMICAL COMPANY, INC., Station B, Buffalo 7, N. Y.

Please send me your Bulletin No. 38 on Oxidation of Vat Dyes with Hydrogen Peroxide.

NAME_____

COMPANY_____

STREET_____

CITY_____ ZONE____ STATE_____ TW-7-52

BUFFALO ELECTRO-CHEMICAL COMPANY, Inc.

fmc DIVISION OF FOOD MACHINERY AND CHEMICAL CORPORATION

Sales Agent: BECCO SALES CORPORATION, Station B, Buffalo 7, N. Y. • Buffalo • Boston • Charlotte • Chicago • New York • Philadelphia • Vancouver, Wash.

"Fabric beauty begins with Proper Processing"

says

Mollie Parnis

well-known American Designer

"After many years of designing, I still get excited when I see a beautiful fabric," says Mollie Parnis. "Colors and textures immediately suggest fresh ideas. That's why proper processing is so important. It enriches a fabric . . . makes it lovely to look at."

YES, Proper Processing means a great deal to designers like Mollie Parnis. If you have a processing problem—remember this: There is a C.P.P. wetting, scouring, fulling or dispersing agent exactly suited to your needs. Ask your Colgate-Palmolive-Peet representative—or write to our Industrial Department for details.

MENTOR BEADS
An alkyl aryl sulfonate detergent of high purity—stable in acid and alkali and with outstanding detergent and wetting properties. Sold east of Rocky Mountains only.

COLGATE FORMULA 25
For low-temperature washing ordinarily requiring olive oil soaps. Sold in eastern states only.

BADGER FLAKES
A high-grade low titer tallow soap flakes. Sold in New England states only.

ARCTIC CRYSTAL FLAKES
Made from pure tallow, guaranteed to contain 88% or more soap. Titer approx. 42°C.

ARCTIC SYNTEX A AND T
Synthetic detergents and wetting agents. Unsurpassed for many processing operations.

Free...

1952 Handy Soap Buying Guide. Tells you the right soap for every purpose. Get a copy from your C.P.P. representative, or write to our Industrial Department.

This silk taffeta afternoon dress by Mollie Parnis has a fitted bodice, full skirt, and scoop neckline with added insert bound in velvet. Short sleeves are velvet trimmed. Comes in all fall colors, also black.

Colgate-Palmolive-Peet Company

Jersey City 2, N. J. • Atlanta 5, Ga. • Chicago 11, Ill. • Kansas City 5, Kans. • Berkeley 10, Calif.

*Over 47 million readers of

*Reg. U.S. Pat. Off.

are getting the Durene story of greater comfort, wear, washability and better looks in these, their favorite magazines.

STANDARD Durene®

knits and sells easier

Standard Durene's unvarying uniformity assures garments that meet the needs of your growing consumer markets.* Ask our representatives about Standard Durene's application and performance.

STANDARD DURENE
S-C-T INDUSTRIAL SEWING THREADS
Natural, bleached, dyed

Over Sixty Years
of Service to the Textile Industry

Standard-Coosa-Thatcher Co.

CHATTANOOGA 1, TENN.

New York 16, N. Y.
185 Madison Ave.

Chicago 54, Ill.
Merchandise Mart

Philadelphia 22, Pa.
1427 N. Broad St.

Reading, Pa.

Greensboro, N. C.
Guilford Bldg.

Utica, N. Y.
First Nat'l. Bank Bldg.

Representatives in Canada, Central & South American Countries

L. F. Dommerich & Co., Inc.

Executive and General Offices

271 MADISON AVENUE

NEW YORK 16, N. Y.

Telephone: Murray Hill 3-8650

FACTORS

For Manufacturers and Merchants

Inquiries as to our services solicited

●

BUSINESS ESTABLISHED 1840

Introducing
AHCOQUINONE®

COLORS FOR WOOL AND SYNTHETICS

AHCOQUINONE® BLUE AH

For Constant Shade Under *ANY* Light!

One of the AHCOQUINONE® family of wool colors, an acid milling color suitable for shading of chrome dyes. Clear constant shade under all lighting conditions, no redness under artificial light. Excellent fastness to light, milling, washing and wet processing treatments. Used on natural and synthetic fibres, particularly on wool, worsted and nylon.

Complete technical data and literature available on request

Quality-Integrity

For vat, acid, direct dyes or auxiliary chemicals for all fibres and fabrics . . . see AHCO first!

AHCO DYES

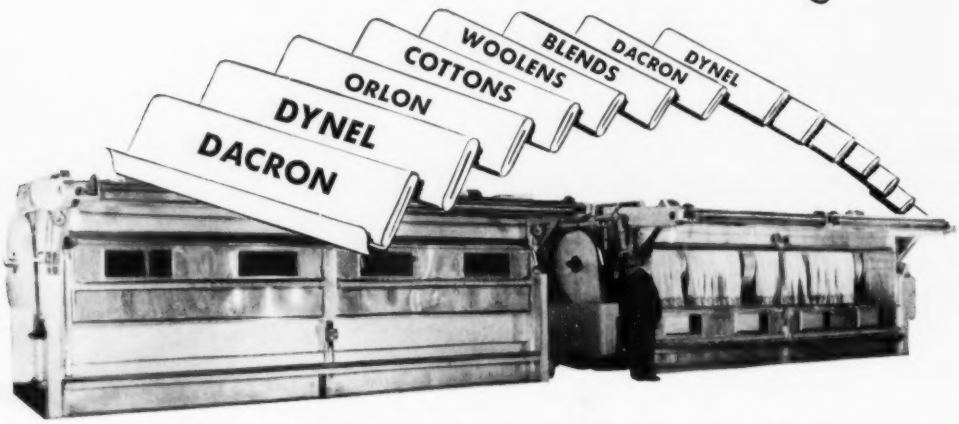
ARNOLD, HOFFMAN

PROVIDENCE • RHODE ISLAND

Associated with Imperial Chemical Industries Ltd.
London, England

ARNOLD, HOFFMAN & CO., INCORPORATED • EST. 1815 • PROVIDENCE, R. I.
Offices: Charlotte, Cincinnati, New York, Teterboro, Providence
Plants: Charlotte, N. C. • Cincinnati, Ohio • Dighton, Mass.

Dye "Hard to Dye" Synthetics Easily...



with Type TLBT Piece Dye Kettles

For Fabrics of Dacron, Dynel, Orlon, Etc. —
As Well as Cottons, Woolens and All Blends!

Whether your fabric is natural, synthetic or a blend — our TLBT Dye Kettles do away with piece dyeing problems. Nearest to an all-purpose machine ever offered, our Type TLBT-X dyes the difficult cotton and synthetic rug fabrics with complete success. Among important features of these stainless steel enclosed machines:

★ Unique design and multi-grip type reel avert tangles and tie-ups, reduce slippage.

★ Goods balloon, move around, change folds readily to eliminate wrinkles, creases and dye streaks.

★ Saves substantially in dyestuffs through operating efficiency, in steam costs through design and insulation, in long life and maintenance through savings-insurance features.

Ask for full data on piece dyeing synthetics and other fibers with Type TLBT — greatest advance in piece dye kettle design in 25 years. Our new catalogue page — free on request — describes these fine machines in detail.

RIGGS & LOMBARD, INC.

FOOT OF SUFFOLK STREET, LOWELL, MASS.

"The Fleet Line" — A **COMPLETE LINE** of modern equipment to successfully handle present day wet-finishing, carbonizing and dyeing requirements.

DOMESTIC & CANADIAN AGENTS: — Paul A. Merriam, 1491 Broad St., Providence, R. I. • Charles H. Dunker, 1236 South Maple Ave., Los Angeles 15, Calif. • Albert R. Breen, 80 E. Jackson Blvd., Chicago 4, Ill. H. E. Mott Co., Ltd., Brantford, Ontario, Canada

EXPORT AGENTS: — Latin America — Balkan States, Egypt, Palestine, India — Meyer, Lyra & Co., 228-299 Fulton St., N. Y., N. Y. • South Africa — Noel P. Hunt, Pty., Ltd., Embassy House, 326 West St., Durban, South Africa • China — G. R. Coleman & Co., Inc., 50 Church St., N. Y., N. Y.

MACHINES MOUNTED ON Westsorb CAN'T CRAWL

Westsorb *adhesive-coated* machine mounts are solving more than the problem of vibration. Their (exclusive) adhesive coating on both sides prevents looms and all other machinery from "crawling." Eliminates realignment after installation. This minimizes down time—saves money.

Westsorb adhesive-coated felt mountings don't break down under heaviest service impacts. They resist oil, acid, grease, water and age. They are simpler to install than any machine pad. No holes or bolts—no adhesive to apply. Western Felt engineers located throughout the textile areas are anxious to cooperate.

WESTSORB
Vibration-absorbing Machine Mounts

- Quickly installed
- No holes to drill
- No adhesive to apply
- Low "down-time"
- Saves floors
- Less machine repair
- Reduce plant noise
- Thickness for every need
- Engineered for every job

GET THIS DATA

WESTERN Felt WORKS
4035-4117 Ogden Ave.
Chicago 23, Illinois
Branches in all Principal Cities
MANUFACTURERS AND CUTTERS OF WOOL FELTS

Western Felt Works
4035-4117 Ogden Ave., Chicago 23, Illinois

Please send 18-page booklet containing data on efficiency tests of Westsorb machine mounts under looms and other equipment.

Company .....

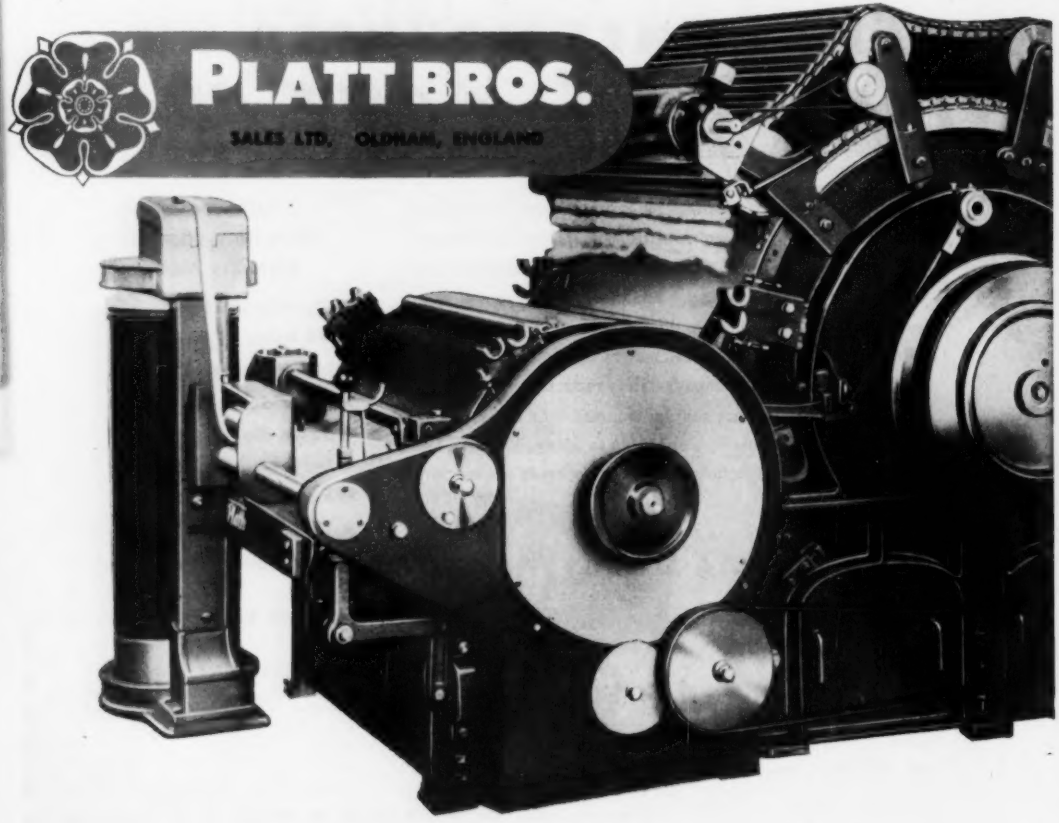
Address .....

Individual ..... *Title* .....

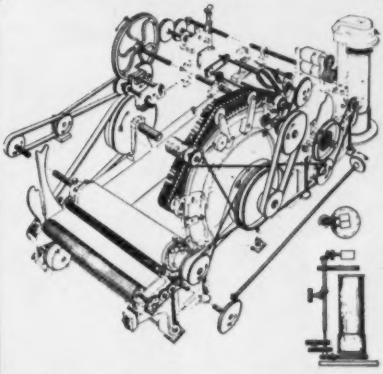
Hundreds of Platt

are already improving production in American cotton mills

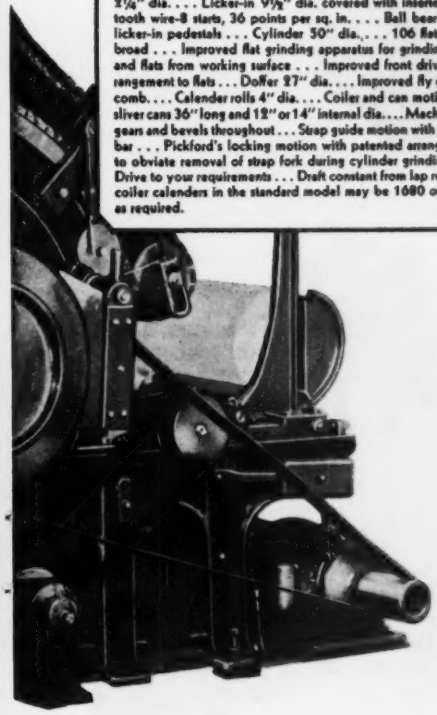
There are a lot of mills rediscovering the perfection of Platt machinery. This cotton card is solidly built to close tolerances. One outstanding result is the way it takes *and holds* an accurate setting; vibration is eliminated at all working speeds; undesirable air currents are eliminated. Notice the streamlined design and guarding to keep fly *outside* where it can be easily wiped off. It will pay you in immediate cash savings and future improved production to see this card in action. Could you visit our Charlotte machinery center, or perhaps we could arrange a trip to a nearby installation? You'll hear a lot about even, nepless webs!!



Cards



STANDARD SPECIFICATIONS: 40" wide . . . Clothing for your requirements . . . Dish feed plate with fluted steel roller 2¼" dia. . . . Licker-in 9⅛" dia. covered with inserted saw-tooth wire-8 starts, 36 points per sq. in. . . . Ball bearings to licker-in pedestals . . . Cylinder 50" dia. . . . 106 flats 1⅜" broad . . . Improved flat grinding apparatus for grinding wire and flats from working surface . . . Improved front driving arrangement to flats . . . Doffer 27" dia. . . . Improved fly doffing comb. . . . Calender rolls 4" dia. . . . Coiler and can motions for sliver cans 36" long and 12" or 14" internal dia. . . . Machine cut gears and bevels throughout . . . Strap guide motion with handle bar . . . Pickford's locking motion with patented arrangement to obviate removal of strap fork during cylinder grinding . . . Drive to your requirements . . . Draft constant from lap roller to coiler calenders in the standard model may be 1680 or 2240 as required.



Seeing the machine and the process...

Being engineers and agents for every type of cotton preparatory machinery gives us a broad perspective; an understanding of the interdependence of machines; you might say the ability to see *the forest* and *the trees*. May we be of service to you in selecting a single machine or a complete mill?

Atkinson, Haserick & Co.

a. h.

Textile Machinery Agents and Engineers Since 1823

211 CONGRESS STREET
BOSTON 6, MASS.
1639 W. MOREHEAD STREET
CHARLOTTE 2, N. C.

Second Operation —
HOLDSWORTH
SINGLE HEAD,
TWIN DELIVERY
GILL REDUCER

HOLDSWORTH

Announces a New

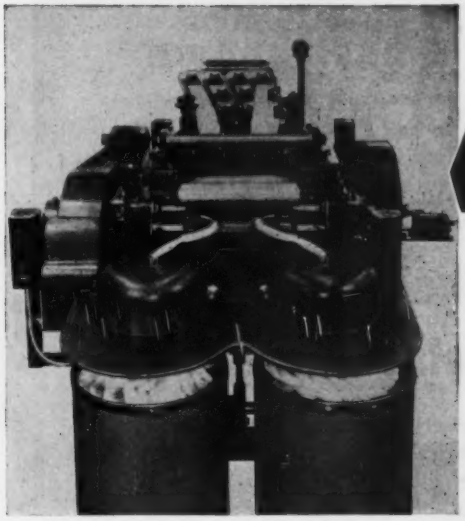
BRADFORD TYPE INTERSECTING

GILL BOX *FOR THE FIRST DRAWING*

***OPERATION* ON BLENDED**

SYNTHETICS AND WORSTED TOP

Third Operation —
HOLDSWORTH
SINGLE HEAD,
TWIN DELIVERY
GILL REDUCER



For the first operation after combing (or after a converter), the new Holdsworth Bradford Type Gill Box utilizes a heavier entrance sliver weight. It produces a well blended, open end, ideally suited to the "Abbreviated System" which follows. The usual Bradford Box apron has been removed and a three roll delivery arrangement with closer nip gives excellent fiber control and evenness of ends. The patented Holdsworth Fallers are interchangeable for pinnings from 11 to 15 per inch. Each head of fallers and screws delivers two ends into 15" diameter cans of 20 lb. coils. The machine is completely motorized and equipped with latest style stop motions. Holdsworth, America's most experienced maker of Gilling Machinery, would be glad to tackle your combing and drawing problems without any obligation to yourself. Write Atkinson, Haserick & Co. about this service.

4

Fourth Operation –
HOLDSWORTH
TWO HEAD,
QUAD DELIVERY
GILL REDUCER

48 hour repair service

Send Holdsworth Screws to be repaired direct to the plant, 55 Sabin St., Pawtucket, R. I. Within 48 hours we will send you a screw expertly repaired and of true pitch. We also repair all types of fallers.

RECUTTING GILL SCREWS

Atkinson, Haserick & Co.

Textile Machinery Agents and Engineers Since 1823

a.h.

211 CONGRESS STREET
BOSTON 6, MASS.
1639 W. MOREHEAD STREET
CHARLOTTE 2, N. C.

The world's best known NOBLE COMB,

Prince-Smith & Stells,

for wool, hair, blends or 100% synthetics & recombing

The Prince-Smith & Stells Noble Comb has been the standard of the wool combing industry for many years. It deals most satisfactorily with long prepared wools, mohair, alpaca, camel hair, carpet wools, coarse, medium and fine crossbreds, merinos and all types of synthetic fibers where the average fiber length is 3" or longer. It is the most accessible of the combs to work on from above or below. Circles with different pinning, for different stocks, are interchangeable without disturbing the gearing. Given reasonable care, it will keep at peak efficiency for decades. Could we help you with your combing or blending problems?

PROVEN

STURDY

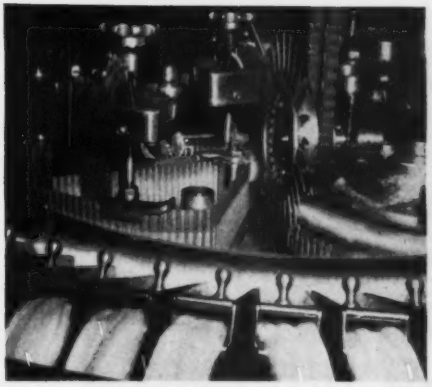
SIMPLE

LOW MAINTENANCE

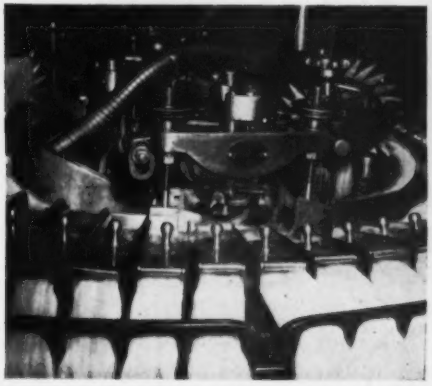
VERSATILE

PRODUCTIVE

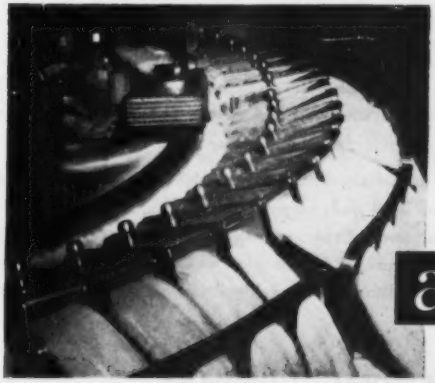
U.S.A. Agents for French System Machinery: Blake Electric Mfg. Co., 43 Commercial Wharf, Boston 10, Mass.



The new P.S.B. Roller Stand assures absolutely equal pressure at each end of the roller and allows easy replacement of the apron. Adjustments are made with the machine running.



The "Perfect" feed knife maintains uniform feeding conditions automatically and eliminates the human element. We can send you a catalog with detail views and fuller data.



Perfectly balanced dabbing motion reduces vibration and wear. The new type circle cleaner raises residual fibers to the top of the pins.

1823

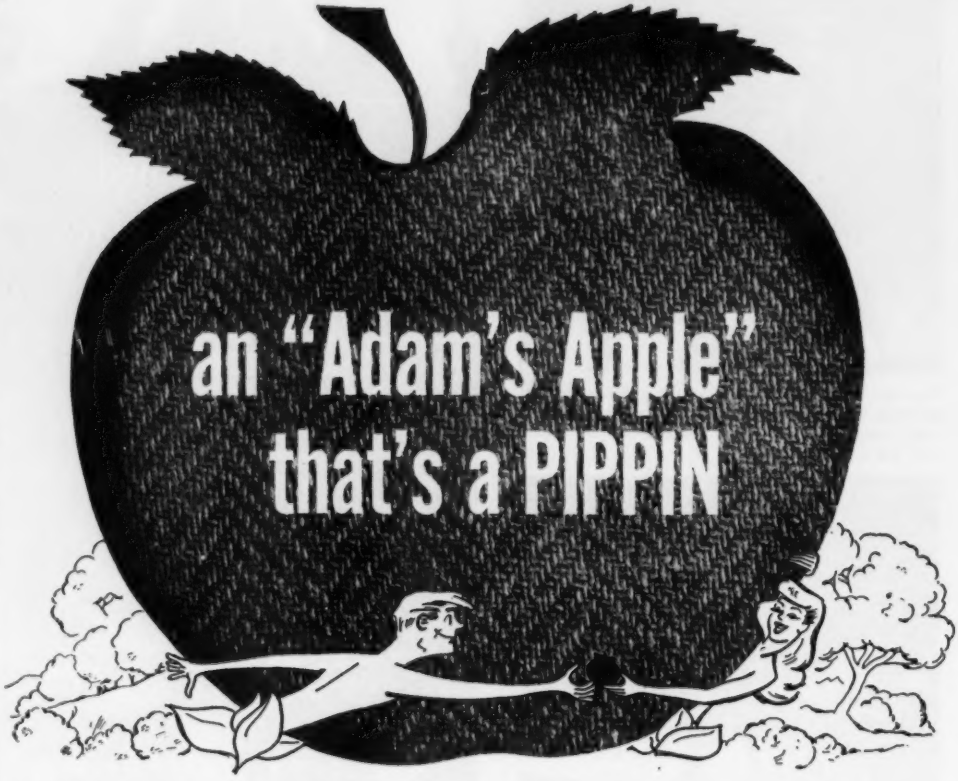
An established mill supply service protects your investment in all Atkinson, Haserick machinery

Atkinson, Haserick & Co.

Textile Machinery Agents and Engineers Since 1823

a.h.

211 CONGRESS STREET
BOSTON 6, MASS.
1639 W. MOREHEAD STREET
CHARLOTTE 2, N. C.



You've probably heard them say in the industry: "Wetting agents are like Adam's apples, everybody's got one." And by "everybody," of course, they mean the makers of textile chemicals.

We're no exception; we have an "Adam's apple"—and it's a *pippin*. We offer it in the firm belief that it will not only benefit *you* but all the Adams and Eves who utilize your fabrics.

Our product is Nopco® 1086-A—an excellent wetting and rewetting agent, applicable in mild alkaline, mild acid, and neutral solutions.

We are confident 1086-A, one of the quality chemicals of our outstanding NOPCOWET* Series, will do a remarkably good job for you in numerous operations, and suggest you'll find it especially advantageous when employed as—

(1) a wetting agent in starch and softener mixes;

(2) a penetrant in the application of enzyme desizing agents;

(3) an agent for imparting a high degree of absorbency to greige goods prior to dyeing (in fact, an all-purpose dyeing assistant);

(4) a wetting agent in the processing of wool for chlorine shrinkproof treatment.

Nopco 1086-A sells competitively. In fact, it saves money for its users, since in virtually every application it proves more economical than comparable agents of this type.

If you are not using Nopco 1086-A already, consult with us. We'll gladly supply full information, and have our Technical Service Department work closely with you to achieve improvements . . . obtain goods with appeal that results in more satisfied customers and a bigger bite out of the market for you.

® Reg. U. S. Pat. Off.
*Trademark

NOPCO

NOPCO CHEMICAL COMPANY
HARRISON, NEW JERSEY
Branches: Boston, Chicago, Cedartown, Ga., Richmond, Calif.

Rieter Winterthur

Slow Starting . . .

LESS CHANCE OF
YARN BREAKAGE

Automatic Stopping . . .

THRU ELECTRICAL CONTROL MOTION ACTING IN CASE OF FEED SLIVER BREAKAGES.

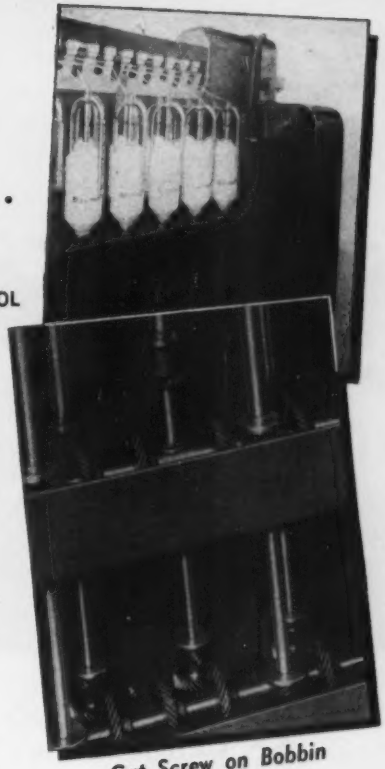
SPEED FRAME
(FLY FRAME)

The streamlined design and fully enclosed headstock mounted on a solid cast iron base plate is greatly appreciated by the practical mill man. All gears are precision cut, including the screw gears on bobbin and spindle drives, making the frame comparatively noiseless.

Ball bearings under bobbin gears also quiets the frame, saves wear, and helps reduce power requirements.

The builder motion is of a special patented construction, employing straight lined cones and a special cam which allows more accurate shifting of the cone belt.

In addition, push button stop-start control, built in motor, electrical inching motion, red signal lights to show location of ends down, central weight relieving motion to top rolls and cone belt, are but a few of the many additional features.



Cut Screw on Bobbin and Spindle Drives

Sole Agents in U. S. and Canada

AMERICAN RIETER COMPANY, INC.

577 KEARNY AVENUE — ARLINGTON, NEW JERSEY, U.S.A.

No. 6 of a series introducing Rieter Products

MODERN MASTERPIECE by U.S. Industry

S.S. United States, New Flagship of American Merchant Marine, Protected by World's Greatest Lubrication Knowledge!

SAILING on her maiden voyage this summer, the 990-ft. S.S. *United States*, largest and fastest liner ever built in America, represents a cross section of U. S. industry . . . a composite of industrial lubrication problems.

Every state contributed to her construction, more than 800 firms supplied materials. Represented are the steel and aluminum industries, metal working, power generation, air conditioning, refrigeration, chemical, textile, plastics, electrical—many others.

Lubrication a Big Problem

The cutaway view shows a small portion of the machinery that powers and operates this world's

Designed by Gibbs & Cox, Inc. Built by Newport News Shipbuilding and Dry Dock Company.

most modern ship. It also indicates why the S.S. *United States* — containing many of the same machines found in plants, mills and mines — presented lubrication problems as complex as any ever encountered in industry.

To solve these problems — to protect giant steam turbines, intricate hydraulic systems, generators, compressors, precision instruments and controls— United States Lines called on Socony-Vacuum.

Today, the S.S. *United States* is protected stem to stern by a complete program of Correct Lubrication. This same unsurpassed protection is available to *you*. Why accept anything less?

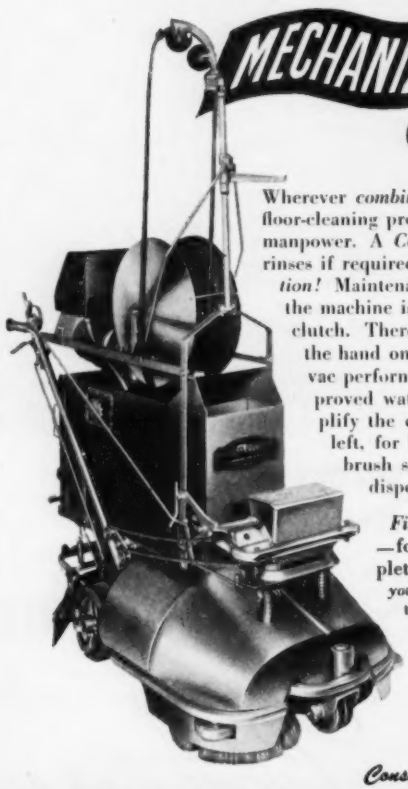
SOCONY-VACUUM

Socony-Vacuum

Correct Lubrication

SOCONY-VACUUM OIL COMPANY, INC., and Affiliates
MAGNOLIA PETROLEUM COMPANY, GENERAL PETROLEUM CORPORATION

Let's not clean away dollars and man-hours with costly, inadequate floor care



MECHANIZE *your floor-cleaning with a* COMBINATION SCRUBBER-VAC!

Wherever *combination-machine-scrubbing* is the practical solution to the floor-cleaning problem, any lesser, slower method is wasteful of money and manpower. A *Combination Scrubber-Vac* applies the cleanser, scrubs, rinses if required, and picks up (damp-dries the floor) — *all in one operation!* Maintenance men like the *four-in-one feature* . . . also the fact that the machine is simple to operate. It's *self-propelled*, and has a *positive* clutch. There are no switches to set for *fast* or *slow* — slight pressure of the hand on clutch lever adjusts speed to desired rate. The powerful vac performs efficiently and quietly. Cable reel is self-winding. Improved waterproof wiring and minimum electrical connections simplify the cleaning of the machine. *Model 213P Scrubber-Vac* at left, for heavy duty scrubbing of large-area floors, has a 26-inch brush spread, and cleans up to 8,750 sq. ft. per hour! (Powder dispenser is optional.)

***Finnell* makes *Scrubber-Vac Machines* in a full range of sizes — for small, vast, and intermediate operations. From this complete line, you can choose the size that's exactly right for *your* job (no need to *over-buy* or *under-buy*). It's also good to know that you can lease or purchase a *Scrubber-Vac*, and that *there's a Finnell man nearby* to help train your maintenance operators in the proper use of the machine . . . to recommend cleaning schedules for most effectual care . . . and to make periodic check-ups. For demonstration, consultation, or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 1907 East St., Elkhart, Ind. Branch Offices in all principal cities of the United States and Canada.**

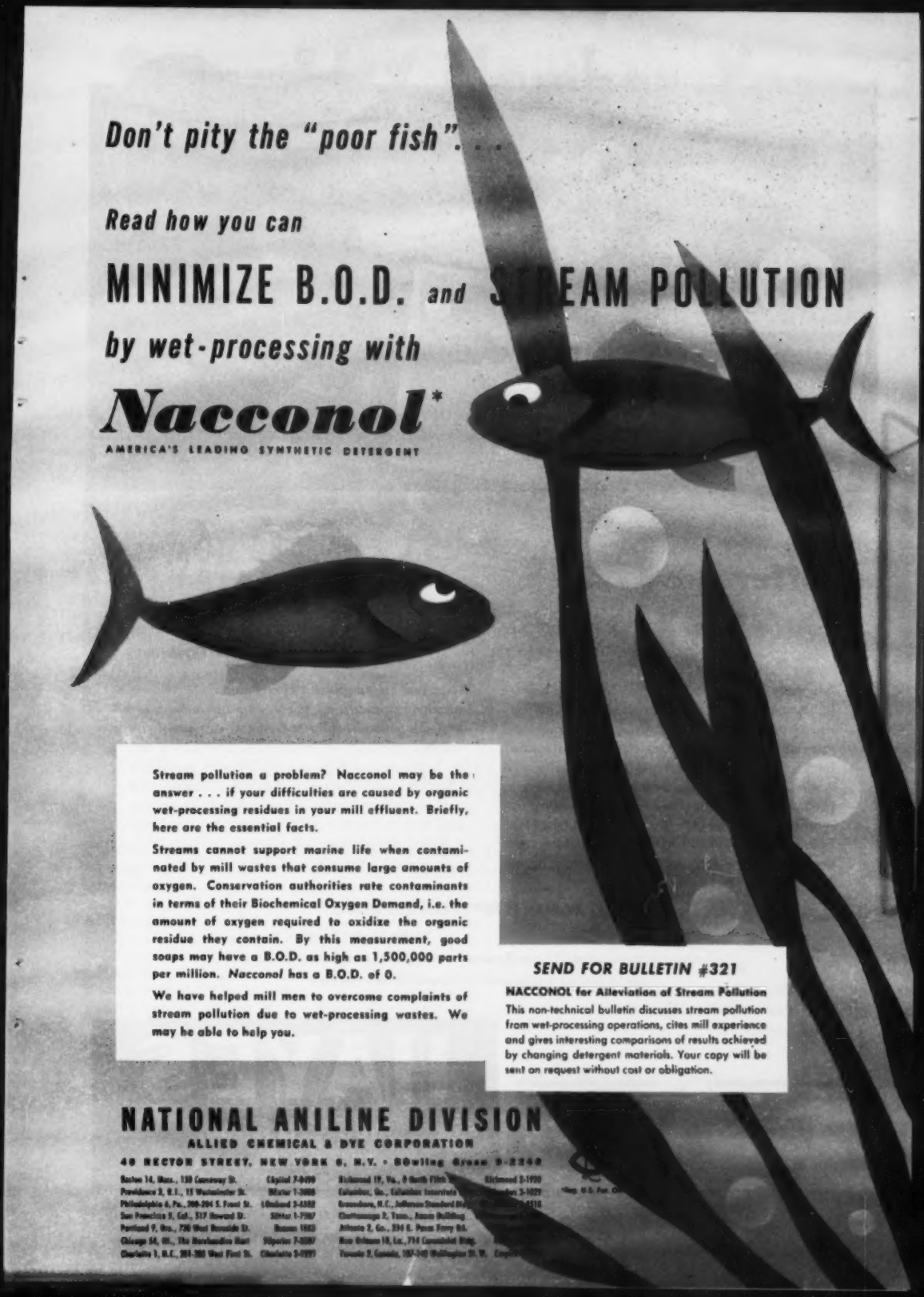
Conserve Manpower with Completely Mechanized Scrubbing

FINNELL SYSTEM, INC.

Originators of Power Scrubbing and Polishing Machines

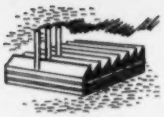
FINNELL

BRANCHES IN ALL PRINCIPAL CITIES


Don't pity the "poor fish"...
Read how you can
MINIMIZE B.O.D. and STREAM POLLUTION
by wet-processing with
Nacconol*
AMERICA'S LEADING SYNTHETIC DETERGENT
Stream pollution a problem? Nacconol may be the answer . . . if your difficulties are caused by organic wet-processing residues in your mill effluent. Briefly, here are the essential facts.
Streams cannot support marine life when contaminated by mill wastes that consume large amounts of oxygen. Conservation authorities rate contaminants in terms of their Biochemical Oxygen Demand, i.e. the amount of oxygen required to oxidize the organic residue they contain. By this measurement, good soaps may have a B.O.D. as high as 1,500,000 parts per million. Nacconol has a B.O.D. of 0.
We have helped mill men to overcome complaints of stream pollution due to wet-processing wastes. We may be able to help you.
SEND FOR BULLETIN #321
NACCONOL for Alleviation of Stream Pollution
This non-technical bulletin discusses stream pollution from wet-processing operations, cites mill experience and gives interesting comparisons of results achieved by changing detergent materials. Your copy will be sent on request without cost or obligation.
NATIONAL ANILINE DIVISION
ALLIED CHEMICAL & DYE CORPORATION
40 RECTOR STREET, NEW YORK 6, N.Y. • BOwling Green 9-2260

offers you . . .

SKILLED DESIGNING TALENT



MODERN PRODUCTION FACILITIES

PRACTICAL FABRICATING EXPERIENCE

For many years Hayes Industries has manufactured light weight metal parts for the aircraft industry where advanced manufacturing techniques and exacting precision standards must be maintained. Long experience in fabricating aluminum and magnesium parts has been instrumental in helping to produce textile beams that are light in weight, true running and perfectly balanced. Hayes Light Metal Beams have combined correct design and advanced manufacturing techniques to give you working surfaces that are machined to precise limits permitting sustained production. These working surfaces are perfectly smooth, splinter free and rust proof, requiring practically no maintenance, producing better selvages and reducing rejects to a minimum. Hayes Beams can be taken apart for replacement of damaged parts. Through long and intimate association with the textile industry, Hayes has developed a skilled engineering staff whose services are available to help solve your individual problems.

HAYES MODERN PLANT FACILITIES PRODUCE

Light Metal Loom Beams
Light Metal Section Beams
Light Metal Adjustable Loom Beams
Light Metal Tricot Beams
Light Metal Replacement Loom Beam Barrels

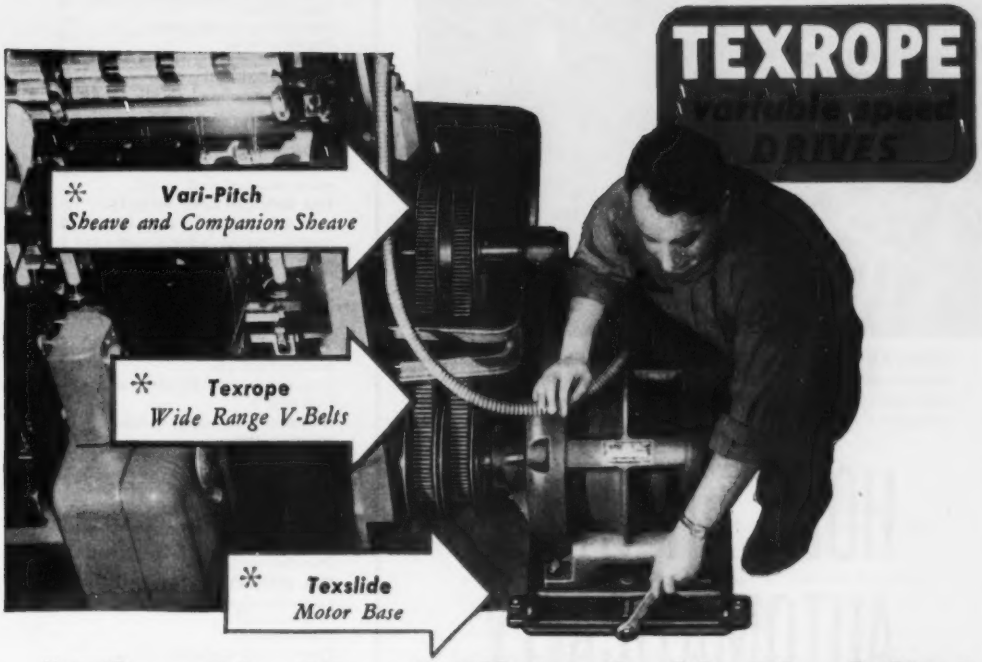
EASTERN REPRESENTATIVE
J. Paul Laird
Philadelphia, Penn.

SOUTHERN REPRESENTATIVE
R. E. L. Holt Jr. & Assoc.
Greensboro, N. C.

HAYES
INDUSTRIES, INC.,
JACKSON, MICHIGAN

For more information, write direct or use Reader Service post card.

Spin ANY Number Yarn That'll Make You Money!



*They Give Your Mill Profitable Flexibility!

SOME MILLS are flexible . . . can spin many yarn numbers. They're ready to take the most profitable orders no matter which way the market shifts.

Does your mill have this flexibility? For example, can you switch from sheeting to shirting? With fixed speed drives on spinning frames, your hands are tied.

If you are limited in the type orders you can handle . . . there's a low cost answer to your problem. A wide range *Vari-Pitch* drive will give you a lot of flexibility for few dollars.

Used with your present spinning frame, motor, and electric control, a wide range *Vari-Pitch* drive will provide almost 2 to 1 speed range. And that means more yarn numbers . . . more types of business . . . more profits.

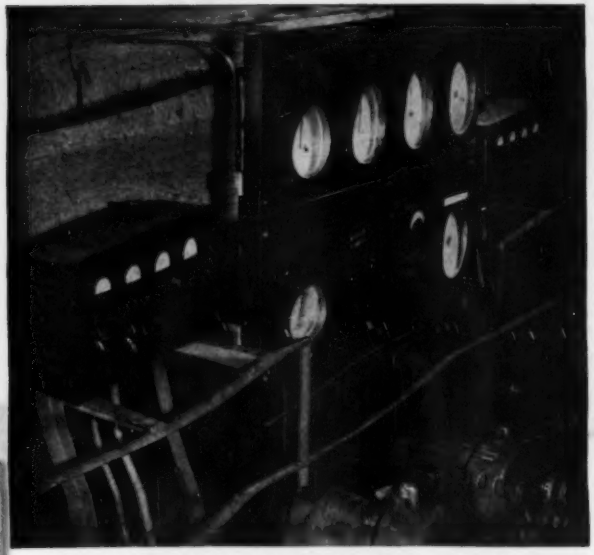
Texrope, Vari-Pitch and Texslide are Allis-Chalmers trademarks.

There are Textile Specialists in each of the cities listed below. Call the nearest Allis-Chalmers office or distributor and find out what wide range Vari-Pitch *sheaves can do for your mill. Or write Allis-Chalmers, Milwaukee 1, Wisconsin.*

Atlanta, Ga.	Chattanooga, Tenn.
Birmingham, Ala.	Dallas, Texas
Boston, Mass.	New Orleans, La.
Charlotte, N. C.	Richmond, Va.

A-3736

ALLIS-CHALMERS



CONSTANT CONTROL OF WARP YARNS. These Bristol instruments automatically control temperature, liquid level and pH on the sheet of warp yarns running through the dye-slasher of Unistel-Batchelder range at Empire Cotton Division, Woods Mfg. Co., Welland, Ontario.

HOLD pH VALUE AUTOMATICALLY

Hundreds of Bristol automatic pH controllers and recorders are used to hold pH at the value known to produce the best results.

With pH in important processes stabilized—time, money and materials are saved, and a uniform quality product results.

Textile mills here and abroad use Bristol continuous pH controllers and recorders on such applications as *neutralizing* after carbonizing and scouring, *conditioning* water for dye and bleach house, *neutralizing* plant waste.

Bristol pH instruments on such applications as these and others in your plant will help you produce better quality at less cost. A typical installation—including other Bristol textile instruments—is shown above.

Write for bulletins on Bristol pH instruments and other Bristol instruments for the applications listed at the right. Address THE BRISTOL COMPANY, 103 Bristol Road, Waterbury 20, Conn.

BRISTOL INSTRUMENTS FOR TEXTILE MILLS

FOR COTTON WEAVING AND FINISHING:

Automatic control for raw stock, yarn, and piece goods, dryers, sour pit, mixing water, boiling-off kettles, and bleaching kettle.
Temperature control for dryers.
Humidity control for dryers.
Slasher control.
Kier-boiling control system.
Dry can control.
Automatic control of dye jigs, dye machines, dye kettles.
Humidity recorders for carding, combing, drawing, spinning, weaving.
Flow meters for measuring steam to each department.
Liquid level recorders and controllers for water tanks and wash wheels.

FOR WOOLEN AND WORSTED:

Automatic temperature control for scouring, drying, dyeing, steaming and water mixing.
Coordinated process control for dyeing and wash wheel.
Humidity control for sorting, carding, weaving, spinning.
Time-temperature control of dye vats, machines and tubs.
Liquid level control for water tanks and wash wheels.
Tachometers for yardage through tentering dryer.
Automatic temperature control of water supply.
Control for back washers and back wash dryers.
Controls for scouring, carbonizing, and neutralizing.
Decating controls.

FOR SYNTHETICS:

Control for degumming tanks.
Control for dyeing.
Slasher control.
Control for bleaching and drying.
Humidity control for twist set box.
Humidity control in spinning room.

FOR FINISHING:

Control for scouring, boarding and dyeing.
Temperature control of conditioner.
Control for washing and bleaching equipment.
Completely automatic decating controls.
Humidity recorders and controllers.

FOR POWER PLANT, WATER SUPPLY AND PLANT WASTE DISPOSAL:

Flow meters for steam and water.
Recording voltmeters and ammeters for electric lines.
Recording gauges for steam pressure, etc.
Recording thermometers.
Draft recorders and controllers.
pH and flow meters on waste disposal system.

THE DEPENDABLE GUIDEPOST OF INDUSTRY

BRISTOL

AUTOMATIC CONTROLLING, RECORDING AND TELEMETERING INSTRUMENTS

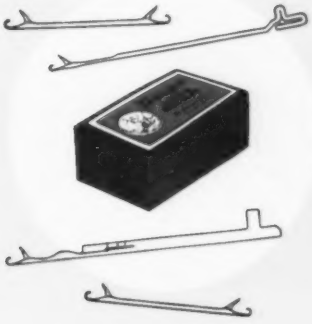
when a new idea
calls for new needles...
consult

TORRINGTON

Do your plans call for the use of new fibers? And will new patterns and designs . . . or new fabric-types be involved?

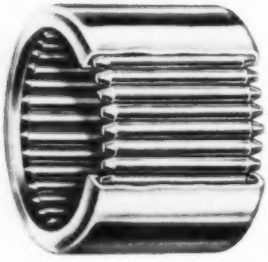
If so, your Torrington representative can give you expert assistance on your needle requirements. For over half a century Torrington has served the knitting industry in designing and developing needles to meet new requirements and new opportunities.

call* TORRINGTON *for quality needles backed by dependable service



THE TORRINGTON COMPANY, Torrington, Conn., U.S.A.
Established 1866
Branches: New York • Philadelphia • Chicago • Boston • Greensboro, N. C.
St. Louis • Bedford, P. Q.—Toronto, Canada. • *Pacific Coast Representative:*
E. G. Paules, 1762 West Vernon Ave., Los Angeles 37, California.
Broadgate House, 7-10 Eldon St., London E. C. 2, England.

what's the best buy?



When it comes to selecting an anti-friction bearing, the best buy is the one that best suits your specific application. Many manufacturers have found that for high radial capacity, light weight or compact size, the Torrington Needle Bearing cannot be equalled at any price.

They have found, too, that Needle Bearings provide dollars-and-cents savings in assembly, lubrication and maintenance. All this, plus the initial low cost of Needle Bearings, makes them a really outstanding value.

Next time you specify anti-friction bearings, consider the advantages of Torrington Needle Bearings. Our engineers will gladly give you more details in terms of *your* application.

THE TORRINGTON COMPANY
Torrington, Conn. South Bend 21, Ind.
District Offices and Distributors in Principal Cities of United States and Canada

TORRINGTON NEEDLE BEARINGS

Needle • Spherical Roller • Tapered Roller • Straight Roller • Ball • Needle Rollers

The Union of German Textile Machinery Makers
with a World Appeal
UNIONMATEX
INGOLSTADT
Spinning Machinery for Cotton – Worsted – Cut Rayon
MAK
Card-sets, Self-acting mules, Ring spinning frames
Schlafhorst
Cone-, Cheese- and Doubling Winding Machines, Automatic Pirn- and Tubular Cop Winders, Warping Machinery, Warping Creels
Sucker
Sizing and hot air drying machines, Cylinder sizing machines, Machines for winding the warp from beam to beam, Size mixing and cooking installations
B. Thies
Dyeing and bleaching plants for cheeses, Pre- and after-treatment apparatuses, Rapid dryers, Beam centrifugors, Bucking kiers, Wool-dyeing apparatuses
Astra
Weaving machines, Jacquard weaving machines, Medium and heavy felt cloth weaving machines
JOH. KLEINEWEFERS SÖHNE
Calenders, Calender-bowls, Engravings, Mangles, Printing machines, Mercerizing machines, Continuous bleaching plants
MONFORTS
Finishing machinery, Making-up machinery, Corduroy and velvet finishing machinery, Double roller gins

The RIGHT GRIP for the particular fabric you're weaving

Heavy duck or standard cotton or sheerest silk—there's a specific grading of TEXALOX roll covering to provide the ideal solution to your take-up roll problem.

TEXALOX covering is infinitely superior to the cork, rubber, sandpaper and perforated tin which it was originally designed to replace. Expressly created for the textile industry by CARBORUNDUM, this flexible, granular, metal-sprayed surface has served some mills for more than ten years without showing evidence of wear.

But—look at these other plus benefits...perfect grain spacing means an even grip, and delivery of definite lengths...grains of varying fineness for each different fabric...impervious to oil and grease, and doesn't accumulate them or produce a stained fabric...prevents cuts and chafe marks.

Try TEXALOX roll covering on your looms now. We'll gladly send you a sample length free of charge. Ask your CARBORUNDUM or distributor salesman —or write Dept. TW 82-70.

TEXALOX

sure-grip take-up roll covering by CARBORUNDUM

TRADE MARK

"Carborundum" and "Texalox" are registered trademarks which indicate manufacture by The Carborundum Company, Niagara Falls, N. Y.

82-70

SPINNING MACHINERY
FOR COTTON, STAPLE FIBRE AND WORSTED
Design and supply of complete spinning plants
based on latest experience in spinning and engineering
Spares for spinning machinery

We are manufacturing for cotton spinning mills in particular:
Blowing Room Machinery (Trutzschler system)
with central full-automatic electric control
Revolving Flat Cards · Drawing Frames · Speed Frames
Ring Spinning Frames · Ring Doubling Frames

and for wool combing mills and worsted spinning mills:
Combers · Gills Intersecting · Open Gills
Porcupine Drawing Boxes · Ring Spinning Frames
Fly Spinning Frames · Ring Doubling Frames
All Machinery for French system

DEUTSCHER SPINNEREIMASCHINENBAU INGOLSTADT

Ingolstadt Oberbayern

INGOLSTADT

STOP

Don't let this profit-robbing criminal in your mill!

The puff-ball, a sinister gangster that lurks behind drop wires and reed, ready to cause overshots, yarn breaks and loom stops.

I. R. C.'s revolutionary Continuous Spinning Process prevents these thieving broken filaments and puff-balls by preventing their causes. This revolutionary process spins, bleaches, dries, treats and twists in a continuous operation so that the yarn is never touched by human hands . . . making possible the production of virtually flawless rayon yarn. Mills, all over the world, have found that this yarn produces better cloth, with fewer seconds, at lower production costs.

For more information, write direct or use Reader Service post card.

THESE THIEVES

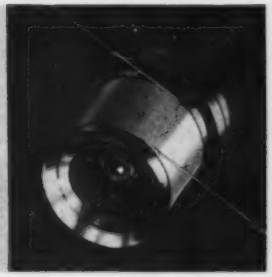
Arrest broken filaments that cause weaving defects!

Broken filaments are the criminals that rob you of profits by forming puff-balls, causing mispicks and overshots.

I. R. C.'s "Thread-Advancing" Reel . . . your guardian against flaws in rayon yarn.

IRC

Industrial Rayon Corporation



Cleveland, Ohio
Sales Office: 500 Fifth Avenue
New York 36, N. Y.

A lining for tank cars which is only 1/50th of an inch thick—scarcely more than a film—first made practicable the shipment of liquid caustic soda in high concentrations without metallic contamination. As numerous processes necessitate the use of caustic in its purest form, this Columbia-Southern development has enabled many companies to effect economies in their use of this essential raw material.

In spite of its thinness, this patented lining effectively seals the caustic from the steel of the tank car, and its purity—even at highest concentrations—is safeguarded throughout transit.

This is one of a number of notable contributions to industry which have made Columbia-Southern one of the nation's great producers of alkalies and related chemicals.

CAUSTIC SODA

—a voracious chemical

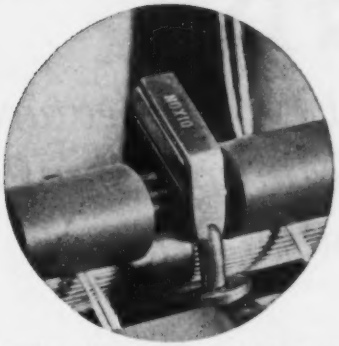
The usefulness of caustic soda to industry is based upon this very power to attack and break down the chemical structure of many materials. In the manufacture of rayon, for example, caustic soda digests and purifies the cellulose . . . in the making of soap, it decomposes fats. This chemical activity of caustic soda makes it a vital raw material in a wide variety of industrial applications, and especially in the manufacture of other chemicals.

COLUMBIA-SOUTHERN
CHEMICAL CORPORATION
SUBSIDIARY OF PITTSBURGH PLATE GLASS COMPANY

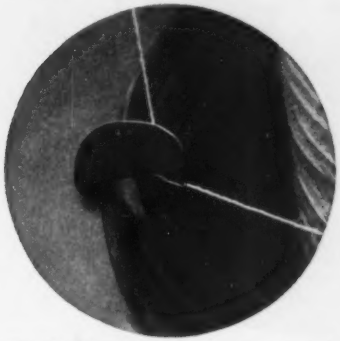
SODA ASH • CAUSTIC SODA • LIQUID CHLORINE • SODIUM BICARBONATE • CALCIUM CHLORIDE • MODIFIED SODAS CAUSTIC POTASH • RUBBER PIGMENTS (Hi-Sil, Silene EF, Calcene TM) • CHLORINATED BENZENES • MURIATIC ACID PERCHLORETHYLENE

EXECUTIVE OFFICES: FIFTH AVENUE AT BELLEFIELD, PITTSBURGH 13, PENNSYLVANIA. **DISTRICT OFFICES:** BOSTON • CHARLOTTE • CHICAGO CINCINNATI • CLEVELAND • DALLAS • HOUSTON • MINNEAPOLIS • NEW ORLEANS • NEW YORK • PHILADELPHIA • PITTSBURGH • ST. LOUIS

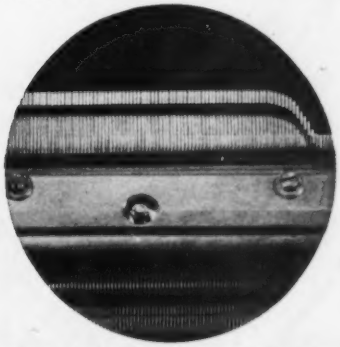
Textile machine parts of Du Pont nylon plastic



Drafting equipment parts molded of Du Pont nylon include saddle bearings on Saco-Lowell spinning frames. They need no lubrication... reduce cloth waste and maintenance costs. (Saddles made for Saco-Lowell by Dixon Lubricating Saddle Co.)



Thread guides such as this ring traveler need far less lubrication when molded of Du Pont nylon... provide more yardage on bobbins because of smoother operation...save production time... cut costs. (Traveler made by Clark Thread Co.)



Verge plate inserts molded of Du Pont nylon outlast those made of previous materials... provide a better cushion for sinker-backs... mean substantial savings in time and maintenance cost for hosiery manufacturers. (Used on Textile Machine Works' "Reading" full-fashioned knitting machine.)

need little or no lubrication... are light, tough, flexible... cut maintenance costs

A unique combination of superior performance and economy—that's the reason parts molded of Du Pont nylon are becoming standard equipment on more and more textile machines.

Nylon is tough, smooth, wear-resistant and unbreakable in normal usage. Because it is resilient, it absorbs shock loads and has low deformation under load. Nylon parts can be used continuously at temperatures up to 250°F. . . . are unharmed by oil or moisture. Used as a bearing material, nylon requires little or no lubrication . . . prevents costly damage to yarn and cloth. And its light weight (about ⅛ the weight of typical metals) and toughness in thin sections permit flexibility in design.

The examples illustrated here are just a few of the many nylon parts in use in the textile industry. Finger bearings, spindle bearings, condensers, and other machine parts molded of Du Pont nylon plastic have also proved superior in efficiency and economy.

Perhaps you can profit by using parts molded of Du Pont nylon. We'll gladly furnish the names of firms that supply mills with nylon parts . . . gladly assist you in developing new parts or improving present ones. For further information, write:

E. I. du Pont de Nemours & Co. (Inc.)
Polychemicals Department, District Offices:
350 Fifth Avenue, New York 1, New York
7 South Dearborn Street, Chicago 3, Illinois
845 East 60th Street, Los Angeles 1, California

DU PONT
REG. U.S. PAT. OFF.
150th Anniversary
Better Things for Better Living
... through Chemistry
Polychemicals
DEPARTMENT
PLASTICS • CHEMICALS

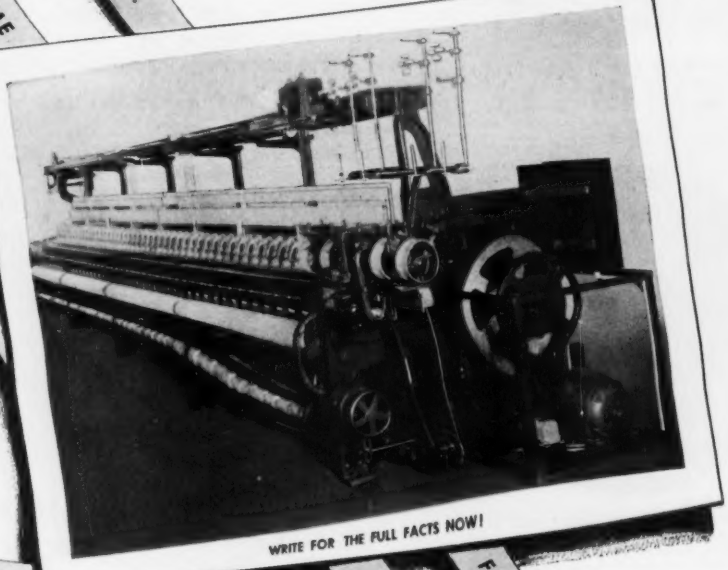
C&K

has designed ALL these features into this New Multiple-Shuttle Narrow-Fabric Loom

LONG OR SHORT LOOM? . . .

ALL-METAL FRAME

NEW DRIVE



WRITE FOR THE FULL FACTS NOW!

LIGHT-METAL LAY

PRECISION C&K CONSTRUCTION

ELECTRICAL BRAKING

FOR HIGH SPEEDS

TAKE YOUR PICK!

VARIOUS LETOFFS AVAILABLE

HEAD MOTION OR DOBBY . . .

NEW END-CAM HARNESS MOTION

This inviolable trademark stands back of the trademarks of the World's Finest Woven Fabrics

Crompton & Knowles LOOM WORKS

WORCESTER 1, MASSACHUSETTS, U. S. A.

PHILADELPHIA, PA. • CHARLOTTE, N. C. • ALLENTOWN, PA. • CROMPTON & KNOWLES JACQUARD & SUPPLY CO., PAWTUCKET, R.I. • CROMPTON & KNOWLES OF CANADA, LTD., MONTREAL, QUE.

Cut the costly excess . . . with Pure Oil Industrial Lubricants

In the complete line of high-quality industrial lubricants Pure Oil makes, you will find many oils and greases designed to do several *different* jobs, instead of one specific job.

And to do each job *equally well.*

This makes it possible for you to do *all* your lubricating with *fewer* lubricants. In other words you can

simplify and save...with Pure Oil Industrial Lubricants

If reducing your lubricants inventory would help reduce your costs (and don't you think it should?), write for full details to: The Pure Oil Company, Industrial Sales, 35 East Wacker Drive, Chicago 1, Illinois.

THE PURE OIL PURE COMPANY, U.S.A.

Be sure with Pure

NEW, IMPROVED DAYCO COT

Higher fiber repellence!
Stops time-outs for ends-down and lap-ups!
Cuts labor costs!

Are you using ordinary cots now? Then look for *years* of extra cot life, when you change over to the Dayco Cot!

Look for improved fiber repellence, too—that will mean fewer lap-ups, fewer ends-down, cleaner yarn. And don't worry about the fibers you're spinning—the new Dayco Cot can be used on cotton, wool, blends or synthetic fibers!

What makes the Dayco Cot so much better than former cots? An entirely new compound of American Rubber, that gives you non-stop performance . . . reduces non-productive labor costs of handling ends-down, lap-ups. Put Dayco Cots on your frames, and expect to see a new standard of cot performance. You won't be disappointed!

DAYTON RUBBER CO., Textile Division, Woodside Bldg., Greenville, S. C.

Performers

Outdraw 'em all!

No wonder the Dayco Cot and the Dayco Long Draft Apron are such big attractions in the textile field! They're outstanding *performers*—cutting maintenance costs while they boost mill output!

Dayco Long Draft Apron

With *this* apron, there's no warm-up period needed before you start production. You just turn on the power and spin, even on Monday morning mill openings. No false starts!

It's a precision apron—lengths and widths can be furnished for any systems. Dayton's exclusive marking methods guarantee perfect fit regardless of type or age of system. Thickness, diameter and width never vary. Controlled manufacturing assures uniform thickness so necessary to proper operation of both single and double apron systems.

Try the Dayco Long Draft Apron, and see for yourself how it cuts down starting time and maintenance, and how it yields up to 10% more uniform yarn!

Single Apron System

Two Apron System

Saves starting time! Speeds production! Cuts maintenance costs!

Dayton Rubber

Since 1905

 For more information, write direct or use Reader Service post card.

NEW HUNTER

Speeds up

Two of the country's leading finishers have absolute proof . . . right in their own plants . . . that the new, exclusive Hunter NO/LAP dye beck reels greatly increase production and reduce costs in the dyeing of *cottons, synthetics* and *blends.*

The elimination of cloth lapping or expensive rubber covering as a gripping surface not only saves time and labor . . . but the clean steel gripper reels enable the dye becks to accept the next set, no matter what the color, after only a *quick, light rinse.*

Hunter NO/LAP Reels can be installed in dye becks of *any style and make* to modernize *every* dyebeck in your plant! Write today for full details on how you can easily convert your present equipment with these "plus production" NO/LAP Reels.

THE UNITED PIECE DYE WORKS

SALES OFFICES
[illegible]

MILLS
LODI
NEW JERSEY
LOS ANGELES
CALIFORNIA

April 4, 1952

James Hunter Machine Company
North Adams
Massachusetts

Attention: Mr. James H. Hunter, Vice President

Gentlemen:

Our experience with your new patented non-slip dye beck oval reels at our Lodi plant has been so encouraging that we felt you would like to have facts that led to our decision to equip our entire new plant at Charleston, South Carolina with them.

When we first installed a single line reel in one of our sample becks we found that we could operate without slippage, making reel covering unnecessary. After thorough testing with many different qualities of materials in one of our 6 ft. production becks and later in one of our 12 ft. becks we decided to standardize on these Hunter reels throughout our entire operation by replacing oval reels with the Hunter non-slip reels as failures occur. We are carrying three of your 12 ft. reels in stock and have additional reels on order for this purpose.

Because this reel is the only one we know of that will operate indefinitely without some type of wrapping, such as canvas duck to prevent materials slipping, it steps up production while reducing costs. The absence of a wrapping also permits us to clean the tubs and reels between dye lots of any color variance with just a quick, light rinsing. With 120 enclosed stainless steel dye becks in operation in our three plants, the savings which will result from using the Hunter reels should amount to many thousands of dollars per year.

We believe the new Hunter non-slip reel to be one of the most significant improvements in fabric dyeing equipment in many years.

Very truly yours,
THE UNITED PIECE DYE WORKS
S. D. Coons
Chief Engineer

SDL:eeg

PLEASE ADDRESS YOUR REPLY TO LODI, NEW JERSEY

CLIFFSIDE DYEING CORPORATION
90 CLIFF STREET
PATERSON, NEW JERSEY

March 28, 1952

James Hunter Machine Company
North Adams, Mass.

Attention Mr. James H. Hunter and Mr. Frank Morrill

Gentlemen:-

After one month experimentation with your NO/LAP, we are very pleased to inform you of the excellent results we have had on various types of materials.

In our opinion this is the most unique and efficient innovation in dye reel design we have seen in many years. We want to congratulate you and your staff on this great improvement.

Please rush delivery on the additional reels we have on order with you.

Yours very truly,
CLIFFSIDE DYEING CORPORATION
Oscar A. Meier
President

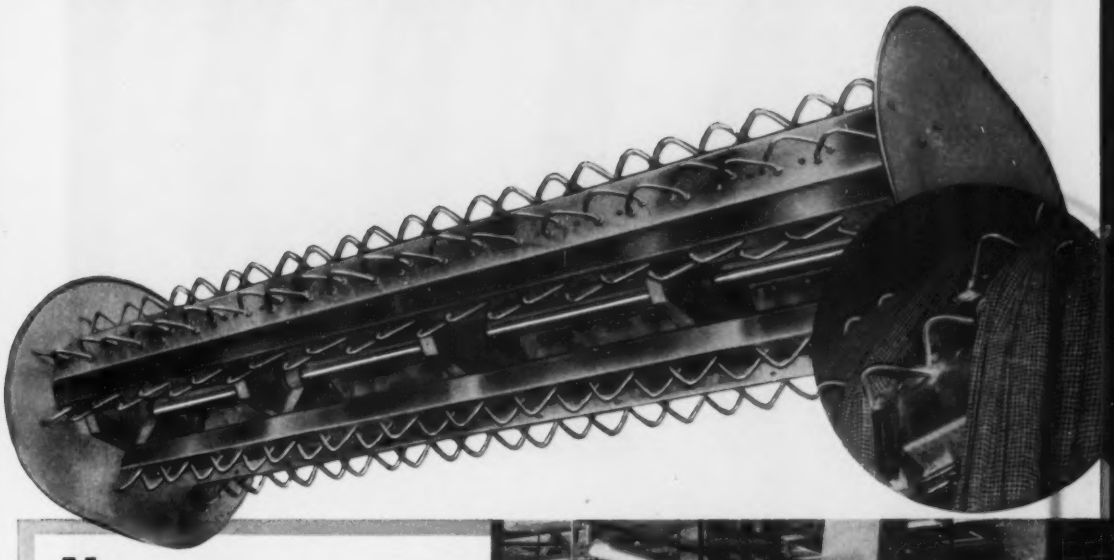
m/l

plus production

- efficient operation of modern equipment
- less down time of equipment
- quick, easy repair . . . rapid parts delivery

NO/LAP* REEL

Production and Cuts Costs



NO LAPPING

Patented steel gripper reels *do not* require cloth covering. Lifetime trouble-free construction. No need for expensive rubber or neoprene covering which eventually needs replacement.

NO SLIPPING

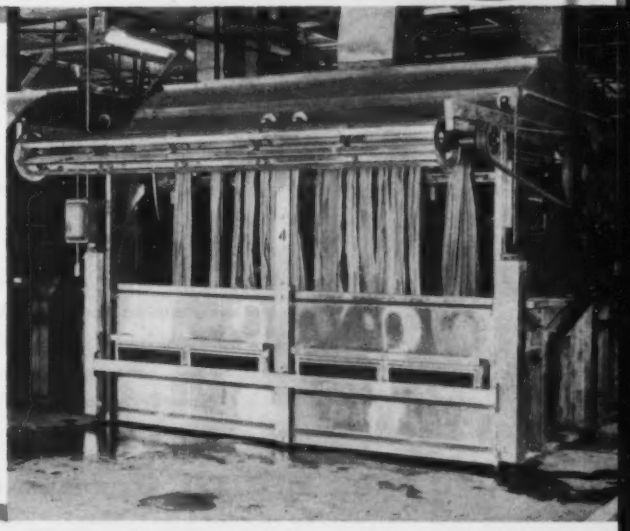
Steel gripper arches hold fabrics gently with sure, steady grip.

NO DELAY

Switch over on color changes accomplished quickly by fast, light rinse. Boiling out between colors completely eliminated.

NO WAITING DOWN TIME

Quick cleaning permits loading of first available dye beck *at all times* regardless of colors used.



*Pat. Pending

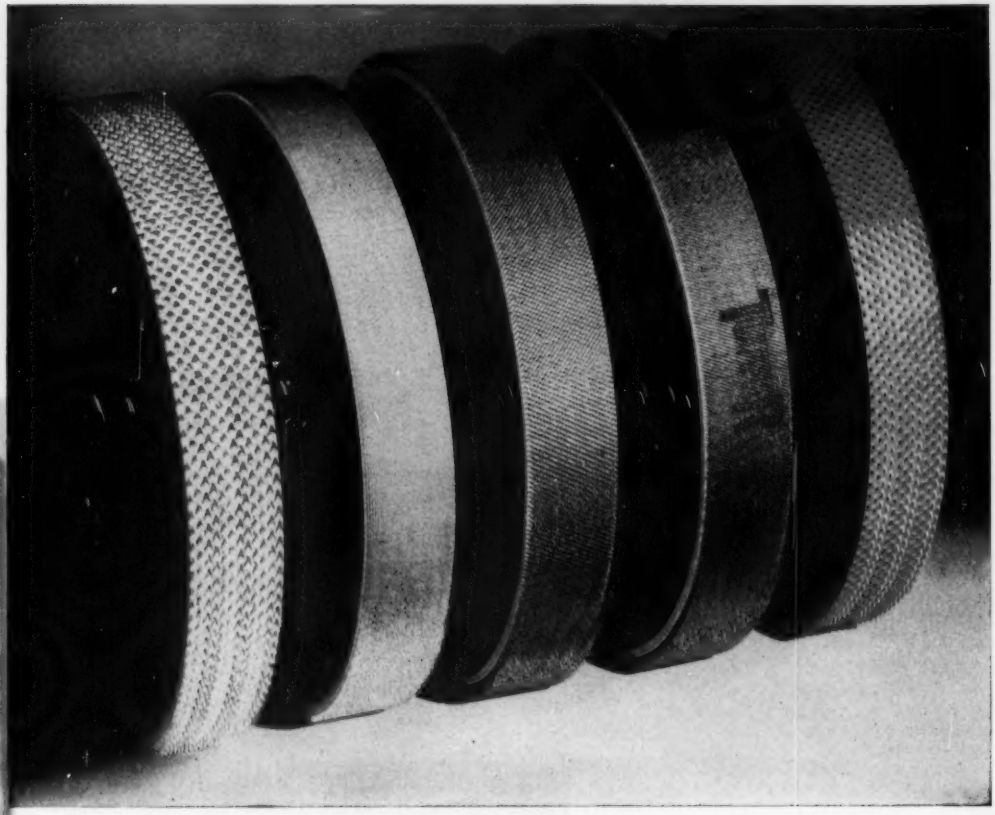
JAMES HUNTER

MACHINE COMPANY

NORTH ADAMS, MASSACHUSETTS FOUNDED 1847

BUILT BY HUNTER . . . IT'S DEPENDABLE

JAMES HUNTER MACHINE CO. Hunter NORTH ADAMS MASS.



A Superior Product for EVERY TYPE of Carding

TUFFER Card Clothing

TUFFER PRODUCTS

Card Clothing for Woolen, Worsted, Cotton, Asbestos and Silk Cards • Napper Clothing, Brush Clothing, Strickles, Emery Fillets. Top Flats Re-covered and extra sets loaned at all plants. Lickerins and Garnet Cylinders from 4 to 30 inches and Metallic Card Breasts Rewired at Southern Plant • Midgley Patented, and Howard's Special Hand Stripping Cards • Inserted Eye & Regular Wire Heddles

You can be sure of getting the Card Clothing best suited to your needs when you ask for a Howard Bros. recommendation. Our factory makes a superior product for every carding operation. Because we are equipped to make all types of Card Clothing from the coarsest size of wire to the finest, we feel well qualified to help you solve any of your carding problems. To be *sure* — specify TUFFER . . . made by our patented Tufferizing process giving you absolute precision and uniformity.

HOWARD BROS. MFG. CO. WORCESTER 8, MASSACHUSETTS

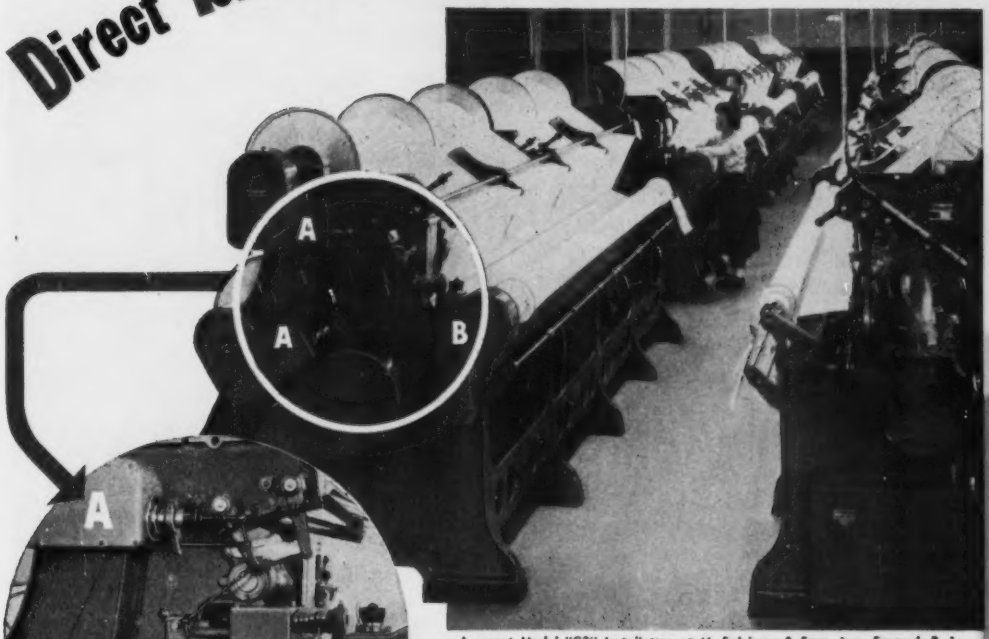
Southern Plants: Atlanta, Georgia and Gastonia, N. C. **Branch:** Philadelphia, Pa.

Direct Representation in Canada

A-3

. . . IT PAYS TO SPECIFY TUFFER CARD CLOTHING

Direct Tension Control = Direct Savings!



A recent Model "C3" Installation at M. Salzberg & Sons, Inc., Esmond, R. I.

The top and bottom beams are each controlled by improved independent yarn let-off controls (A, A) which assure accurate "runner" control. Fluid driven, they provide positive, sensitive and direct tension-bar-activated yarn control.

Uniform fabric tension is maintained by the new, simplified cloth take-up control (fluid driven) (B) which eliminates the need for intermediate tension rolls, and provides a working area easily accessible to the needle bar.

ONE of the many advantages of the MODEL "C3" TRICOT MACHINE

Direct Tension Control, provided by the newly improved yarn let-off and cloth take-up controls featured on the "C3" Tricot Knitting Machine means Direct Savings for you. Direct Tension Control reduces shade marks to a minimum, improves fabric quality and cuts costly cloth imperfections. End breakages, too, are greatly reduced, and the over-all efficiency of both the machine and operator are considerably increased.

Other outstanding advantages of the Whitin Model "C3" include:

- Electrical inching device
- Butted or leaded needle bars (optional)
- Non-reversing quick stop control
- Needle-down-position stop unit
- Large diameter bakelite cam followers
- Center-mounted tachometer and rack counter
- High beam location permits easy accessibility to cam shaft

Whitin MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS

CHARLOTTE, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.

50 years ago this month, Willis H. Carrier founded the air conditioning industry

A printer in Brooklyn was having his troubles. Moisture content of the air was making his paper swell and shrink. But nobody could do anything about that . . . or could they?

Willis Carrier, then a young engineer with Buffalo Forge Company, thought he could. He designed a system that controlled the temperature and relative humidity in that print shop, winter and summer. This was the pioneer air conditioning installation.

Dr. Carrier and his associates formed the company which today leads the industry. And Carrier Corporation has virtually written the history of air conditioning. Carrier created the machines, opened the markets, blazed the trails.

That you are kept comfortable by air conditioning in bus, plane and train . . . restaurant, store and theater . . . office, factory and home . . . is due to the pioneering of this one company.

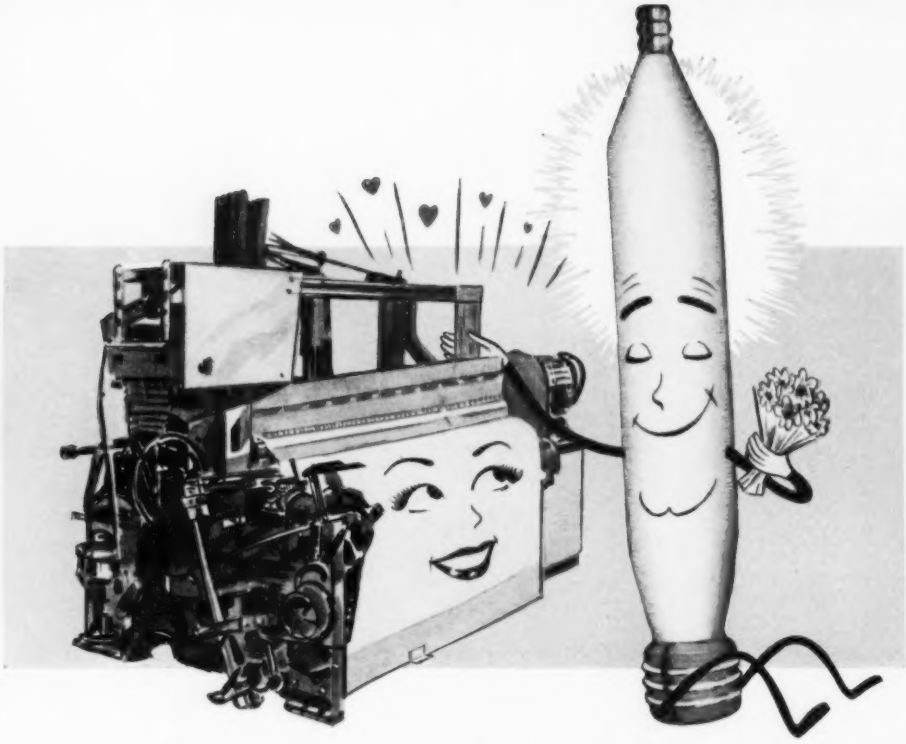
But Carrier has made even more important *indirect* contributions to your well-being. For air conditioning is also a production tool that is essential to the manufacture of synthetic fabrics, radar and electronic equipment, pharmaceuticals, precision aircraft parts, optical instruments, photographic film and scores of other products.

Air conditioning is an important part of your life today. But tomorrow it will be more important. For this industry of ours is very young. And its field of service is unlimited.

Carrier

AIR CONDITIONING • REFRIGERATION
for 50 years—the people who know air conditioning best

COLOR SELLS TEXTILES
Quality
Keeps Them Sold
Color sings out to catch the buyer's eye, rouses desire that is easily converted into sales. And the QUALITY of Franklin Process Fast Color Yarns keeps the buyer contented, subtly recommending repeat purchases from the same source.
Franklin Process
LARGEST PACKAGE DYERS IN THE WORLD
PROVIDENCE
PHILADELPHIA
GREENVILLE
CHATTANOOGA
New York Office
40 Worth Street



FOSTER-MUSCHAMP "Autofill" Bobbin

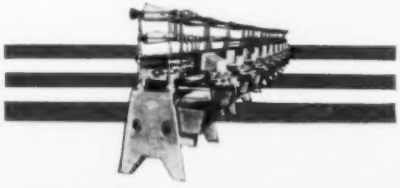
A Synthetic Fabric Loom's Best Friend

The Foster-Muschamp Autofill Bobbin is a synthetic fabric loom's best friend because it enables a loom to perform with much greater efficiency. Being comparatively free of broken filaments and entirely free of hollows and ridges, it greatly reduces tight picks, broken ends, loom stoppage and fabric seconds.

This is because the Foster-Muschamp Autofill Winder precise-winds the yarn on the bobbin by means of a gear control rather than by means of a friction builder wheel. Chafing of filaments is thus eliminated and the lay of the yarn is uniformly correct for the best results.

For the complete story on the Foster-Muschamp Autofill Winder, including six other important features, send for Bulletin M-1 (no obligation).

FOSTER MACHINE COMPANY
Westfield, Mass., U. S. A.
Southern Office — Johnston Bldg., Charlotte, N. C.



Foster-Muschamp Autofill Winder — a fully automatic machine, built to cut costs and improve quality.

Let a MICRO SWITCH
Engineer show you how you can
"use MICRO Precision Switches
as a principle of good design"

Wide variety of MICRO Precision Switches meets most exacting requirements of Textile Engineers

Whether for new textile machinery or to make present plant equipment more productive, MICRO precision switches offer the widest variety of precise snap-action switches to meet an almost incredible number of specific requirements.

Close cooperation with design and plant engineers in the textile and other industrial fields has brought the MICRO line to more than 5000 different characteristics, housings, mounting and actuators, each developed to meet a specific need.

MICRO field engineers, skilled in the problems of the textile industry, are ready and willing to cooperate with you in the selection of just the right precision switch to meet your application. Call or write your nearest MICRO SWITCH branch office today.

MICRO MS SWITCH

FREEPORT, ILLINOIS

MICRO Snap-Action Switches . . . Honeywell Mercury Switches

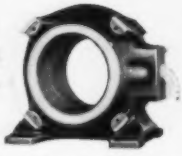
H HONEYWELL

A DIVISION OF MINNEAPOLIS-HONEYWELL REGULATOR COMPANY

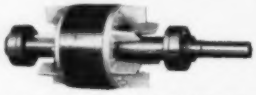
Century

TEXTILE MOTORS SHED LINT

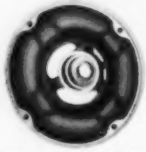
Are Well Ventilated for Long Service Life



Strong, rigid cast iron frame, smooth contours permit free circulation of air.



Rotor assembly with ball bearings in place. Large fans assure adequate ventilation.



Rigid cast iron end brackets maintain alignment, provide smooth, quiet starting and running.

Century C MOTORS

Smooth, clean air passages permit cooling air to enter the motor through the end brackets. This steady blast of air circulates over the bearings, around the windings and out through the large air passages in the frame.

These Century motors are non-clogging — lint and textile dust pass through the motor readily. The motors stay clean, operate at normal temperatures!

In addition to textile motors, Century builds a complete line of electric motors in sizes from ⅛ to 400 horsepower . . . in drip proof, splash proof, enclosed fan cooled and explosion proof frames. Century selective speed drives are also available.

Specify Century for all your textile and standard motor requirements.

CENTURY ELECTRIC CO., 1806 Pine St., St. Louis 3, Mo. • *Offices and Stock Points in Principal Cities*

NUMBER 5 OF A SERIES

How Gulf Periodic Consultation Service helps textile mills cut maintenance costs

PERIODIC SERVICE CALLS KEEP PROGRAM CONTINUOUS AND UP TO DATE

When you adopt Gulf Periodic Consultation Service, Gulf Sales and Staff Engineers will help you set up a complete lubrication program—the kind of a program that has reduced maintenance costs in scores of mills.

These trained specialists will survey your equipment, provide simplified charts with practical lubricant recommendations, and suggest better application methods. They will also provide expert assistance on special problems that involve lubricants or lubrication.

Then, to keep the program up to date, they will make periodic service calls at your mill. On the occasion of these calls, they will note changed operating conditions that might affect the lubrication program. They will advise you regarding new developments in lubrication practice. And they will look for further means of reducing costs through improved lubrication.

Mail the coupon below for additional information on this cooperative plan. Or contact your nearest Gulf office.

GULF SERVES INDUSTRY

Gulf Oil Corporation · Gulf Refining Company TW
719 Gulf Building, Pittsburgh 30, Pa.

Please send me, without obligation, a copy of the booklet "Gulf Periodic Consultation Service."

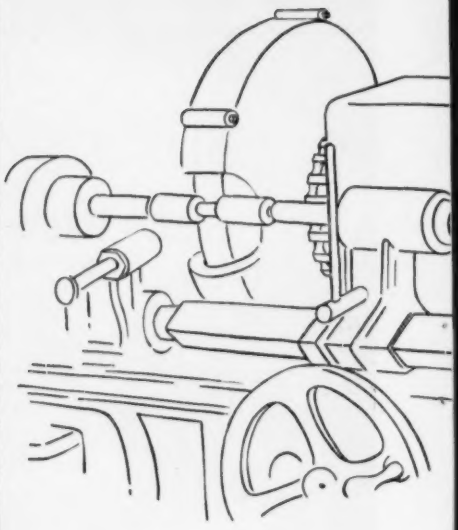
Name.....

Company.....

Title.....

Address.....

To get the most out of your ROLL SHOP EQUIPMENT



Call your Armstrong man— he can help

YEARS OF EXPERIENCE have taught Armstrong men the answers to many textile problems. Could you use some help on a roll covering problem? Call your Armstrong man—anytime.

Can you put too high a value on a roll shop that does a consistent, top-notch job? Probably not. For example, a batch of roll covers buffed slightly out of parallel can play hob with your production, as you well know.

That's why you'll find your Armstrong man out in your roll shop on practically every visit he makes. He's there to head off trouble—if he can—before it starts, to give your roll coverers a hand if they happen to need it.

Of course, he can't take your buffing machine apart and reassemble it blindfolded. But he does know most of the quick tricks on its proper use and adjustment.

Another thing your Armstrong man can do, is help you set up a practical rebuffing schedule, one that's geared to your particular operation. His purpose here, of course, is to insure consistent top performance of your Armstrong roll coverings and at the same time to help you avoid excessive buffing that cuts cover life.

ARMSTRONG'S

your roll coverer head off trouble

Naturally, you needn't limit your Armstrong representative to roll shop problems. He's equally ready to go over any other roll covering problems, for instance, when you plan a change in your equipment or type of work. And if you should run into roll covering trouble, a telephone call usually will bring him to your mill within 24 hours.

Giving you the right roll covering for the work you're running will be no particular problem. There's an Armstrong's Accotex Cot for every kind of service. They're available in either plain synthetic rubber or in combinations of cork and rubber, each in various amounts of cushion and all with the added "electrolyte" that means maximum lap resistance.

Many mill men call an Armstrong man whenever they think of roll coverings. If you're one who doesn't, perhaps you should start today. Write or call Armstrong Cork Company, Textile Products Dept., 8307 Arch Street, Lancaster, Penna. Available for export.

THIS COT LAPS: Moisture layers on fiber and cot contain electric charges that attract fiber to cot. When pressed together, the two moisture layers have the effect of adhering fibers to cot, causing them to lap up.

THIS COT RESISTS LAPPING: Certain electrolytes put in patented Accotex® Covers neutralize electric charges in moisture layer on cot. This cancels out the basic attraction of fiber to cot.

ACCOTEX COTS

A FULL LINE of long-lasting, lap-resistant Armstrong's Cots are available. Whether you spin cotton, wool, synthetics, or blends, your Armstrong man has an Accotex Cover that's right for the job.

PUTTING IT ON THE LINE...

in Industry after Industry!

The Grinnell-Saunders Diaphragm Valve . . . . . .

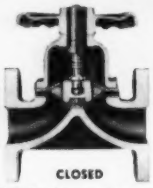
Here's why . . . Piping in today's complex industrial plants is an exacting science involving the handling of highly corrosive fluids, gases, compressed air, beverages, foods and suspended solids . . . in lines where corrosion, abrasion, contamination, clogging, leakage and maintenance are costly factors. Under such conditions, the amazing adaptability of the Grinnell-Saunders Diaphragm Valve explains its acceptance by industry after industry.

Bodies of this versatile valve are made in a variety of metals — iron, stainless steel, bronze, aluminum and others. *But of more importance* is the fact that a body of cast iron (a metal not in short supply) can be lined with glass, lead, natural rubber, neoprene and other materials which, in many instances, handle corrosive fluids *better* than metals.

Diaphragms come in natural rubber, neoprene, butyl, hycar, a special synthetic for foods, and **KEL-F**. This last is chemically inert to all acids and alkalies in all concentrations with the exception of molten alkali metals.

From this broad selection of materials, the problems which the Grinnell-Saunders valve can solve are extremely varied. No wonder industry after industry is putting it on the line.

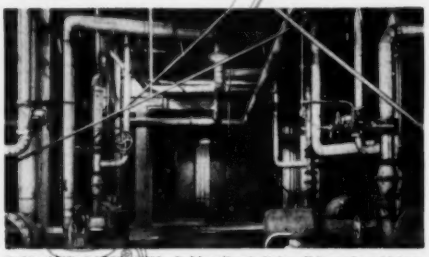
Showing rising spindle . . . valves are available with rising or stationary spindle.



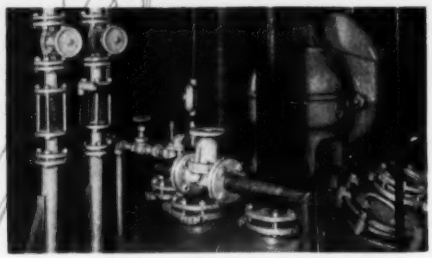
KEL-F diaphragm, using special rubber backing cushion and floating tube nut design.

CHECK THESE GRINNELL-SAUNDERS FEATURES...

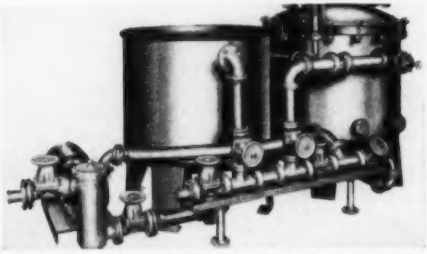
- Diaphragm absolutely isolates working parts from the fluid.
- Diaphragm lifts high for streamline flow in either direction.
- Diaphragm presses tight for positive closure.
- Body, lining and diaphragm materials to suit service.
- Simple maintenance — diaphragm easily replaced.



PULP AND PAPER MILL. Rubber-lined Grinnell-Saunders Valves on stainless steel piping handle sulphate pulp stock in bleach plant of Potlatch Forests, Inc., Lewiston, Idaho.



CHEMICAL PLANTS. Glass-lined Grinnell-Saunders Diaphragm Valves, with KEL-F diaphragms, handle chlorinated organic chemicals at Hooker Electrochemical Company, Niagara Falls, N. Y.



EQUIPMENT MANUFACTURERS. Grinnell-Saunders valves with rubber linings are standard on filtration equipment for solution clarification, made by Industrial Filter & Pump Mfg. Co., Chicago, Ill.

GRINNELL

WHENEVER PIPING IS INVOLVED

Grinnell Company Inc., Providence, Rhode Island • Sales Offices and Warehouses in Principal Cities

pipe and tube fittings • welding fittings • engineered pipe hangers and supports • Thermolier unit heaters • valves
Grinnell-Saunders diaphragm valves • pipe • prefabricated piping • plumbing and heating specialties • water works supplies
industrial supplies • Grinnell automatic sprinkler fire protection systems • Amco air conditioning systems

See what you can **CUT...**

with

CUT METERS

on Your Looms

You can cut out the need for cut marks. You can cut working costs . . . and working responsibility per man, setting them free for other work. You can cut waste ends . . . and cut down on seconds. You can cut production losses . . . and cut out streaks and creases. You can simplify inventory control. AND YOU CAN ASSURE YOUR CUSTOMERS OF UNIFORM CUTS.

Only the Veeder-Root Cut Meter (valuable adjunct to the 2-3 Convertible Pick Counter) can help you cut costs in so many ways . . . on *all* your looms. See your nearest Veeder-Root office now.

VEEDER-ROOT

INCORPORATED

HARTFORD 1, CONNECTICUT

GREENVILLE, S. C.

"Counting House of the Textile Industry"

HIGHER SPEEDS lower operating costs

Consistent Quality

THE WPF&M MULTI-CAN SLASHER

with 5, 7, 9, or 11 30" CYLINDERS

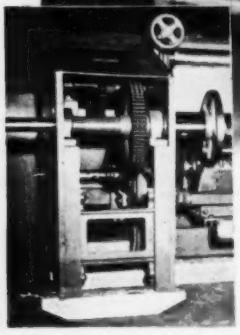
The WPF&M Multi-Can Slasher is designed to produce consistent quality warps from a wide range of natural or man-made fibers, at high speed and low operating costs.

Furnished with either 5, 7, 9, or 11 thirty-inch diameter cylinders, the Multi-Can Slasher can be adapted and equipped to fill any mill requirements.

The polished, stainless steel cylinders, with welded-in steel heads, can be operated at pressures up to 35 psig. Rotary packless steam joints and sealed, self-aligning anti-friction bearings provide smooth, trouble-free operation. Each cylinder is equipped with vacuum valve, thermometer, condensate trap and flexible pipe connections. Temperature control can be provided for manifold, group or individual cylinder control. Either mechanical or electrical type tension control between cylinders and size box, and head end and cylinders are available.

The WPF&M Multi-Can Slasher is one of the complete line of modern Slashers manufactured by the West Point Foundry & Machine Company—specialist in Slasher Room machinery and equipment.

We will be glad to furnish you with complete details without obligation.



***AUTOMATIC, POSTIVE DRIVE** eliminates friction clutch and power losses. Tension can be preset and held constant, beam after beam.*

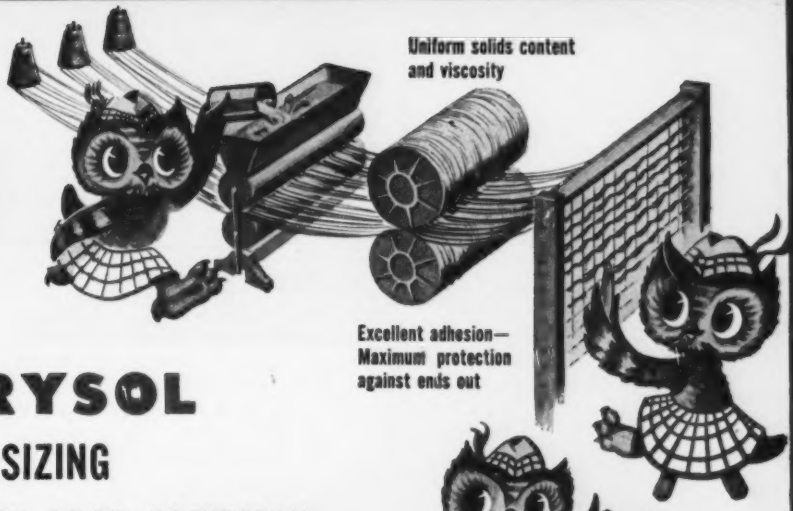
WPF&M WARP PREPARATION MACHINERY

STANDARD 2 and 3 CYLINDER SLASHERS
MULTI-CAN SLASHERS
WPF&M HI-SPEED 4 CYLINDER SLASHERS
CALLAWAY SAMPLE SLASHER

SLASHER MODERNIZATION EQUIPMENT

HI-SPEED HEAD ENDS WITH STRETCH CONTROL
STANDARD WPF&M HEAD ENDS
MULTI-MOTOR DRIVES and CONTROLS
TEMPERATURE, SPEED and TENSION CONTROL DEVICES
HI-SPEED SIZE BOXES, MODEL 50 SIZE BOXES and STANDARD SIZE BOXES
SIZE KETTLES and EQUIPMENT

WEST POINT FOUNDRY & MACHINE CO.
WEST POINT, GEORGIA

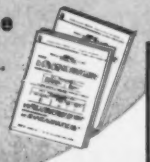


ACRYSOL

NYLON SIZING ASSURES GOOD ADHESION— PREVENTS ENDS OUT

For warp sizing nylon—
ACRYSOL A-1
For single end sizing nylon—
ACRYSOL A-3

ACRYSOL sizes give essential protection to nylon weaving or tricot knitting yarns at lowest cost. Be wise and thrifty—write for full details of these polyacrylic acid sizes.



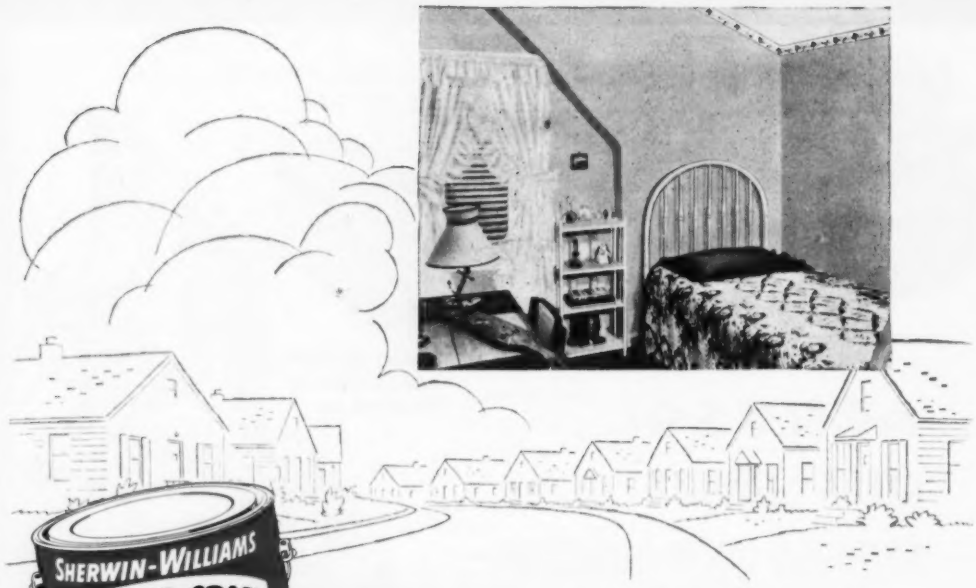
CHEMICALS FOR INDUSTRY

ROHM & HAAS COMPANY

WASHINGTON SQUARE, PHILADELPHIA 5, PA.

Representatives in principal foreign countries

ACRYSOL is a trade-mark, Reg. U. S. Pat. Off. and in principal foreign countries.



KEEPS MILL VILLAGE INTERIORS *Beautiful... Longer*

That Means Lower Maintenance Costs

Here's why! QUALI-KOTE is a *brand new,* fast-drying commercial wall paint especially developed for: (1) *Easy application;* (2) Exceptional *durability;* (3) Repeated *washing;* (4) *Lasting,* velvet-like beauty!

QUALI-KOTE cuts decorating costs by reducing application time. It comes ready to use . . . flows on smoothly and easily. It dries to touch in only one hour . . . means less inconvenience to tenants!

QUALI-KOTE *reduces cost of upkeep* because it hardens to a tough, nonporous film that actually resists dirt and wear! When QUALI-KOTE is thoroughly cured, it will withstand repeated washing . . . without disturbing its color or finish. QUALI-KOTE maintains beauty . . . *puts off* early repainting!

Let us show you QUALI-KOTE's outstanding economy features . . . its 16 authentic colors and white; features and colors that give tenants new pride in their homes . . . give you an *actual saving!*

Write The Sherwin-Williams Co., Cleveland 1, Ohio. (Division Office, Charlotte, N. C.)

SHERWIN-WILLIAMS

INDUSTRIAL MAINTENANCE FINISHES

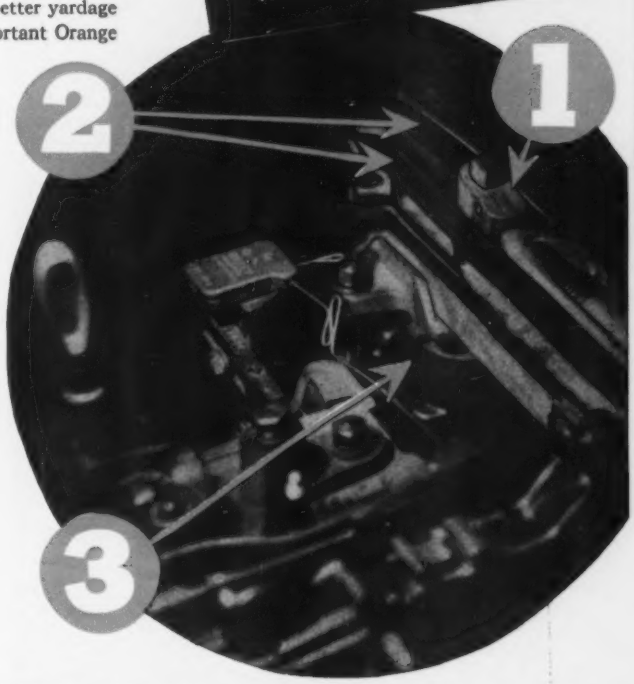
SAVE-LITE MILL WHITE • COLOR HARMONY FINISHES • MILL VILLAGE PAINTS

For more information, write direct or use Reader Service post card.

Use the BIG 3 ORANGE® LINE Loom Leathers to help you

CUT SHUTTLE COST
(No hot spurs)
STOP KINKY FILLING
(No shuttle-bounce)
REDUCE BANG-OFF
(Perfect boxing)
INCREASE PROFITS

This "stop-action" photograph, taken at 1/20,000th of a second while the Draper X2 Loom was running, proves that G&K Orange Line Pickers, Check Straps and Binder and Box Plate Leathers work together as a *team*. You can produce more and better yardage with less down time by using these important Orange Line Loom Leathers. Here's why . . .



1. PICKMASTER LEATHER PICKERS

precision-built of special Hairitan® Leather — withstand repeated blows of the shuttle without causing shuttle bounce or getting overheated. They follow-through for a long, smooth flight across the race plate.

2. BOXMASTER BINDER AND BOX PLATE LEATHERS

of Hairitan Leather maintain the original, dense, high-friction surface as they wear. No coarse fibres to catch filament rayon — no rough surface spots — and no waxing needed to insure smooth, firm boxing at each end of the pick.

3. CHECK STRAPS STRAIGHT, CURVED OR ENDLESS

Again the famous Hairitan Leather, hair-on or hair-off, built to flex and flow two or more times a second, month after month — cushioning the stick without wearing on the edges of the strap.

Follow-through with G&K Orange Line leathers for Draper and Crompton & Knowles Looms. See your distributor or the G&K or DIXIE representative.

CATALOG presents the complete line of Textile Leathers for weaving — also aprons and tapes for the woolen and worsted industry. Ask for a copy, on your letterhead.

second century G and K Orange® Line **Textile Leathers**

GRATON & KNIGHT

GRATON & KNIGHT COMPANY, Worcester 4, Mass. **DIXIE LEATHER CORPORATION, Affiliate, Albany, Ga.**

NEW PACKAGED G-E SLASHER DRIVE WINDS MORE YARN PER BEAM

Automatically-controlled warp tension is maintained on this slasher by a G-E packaged slasher drive (control panel in foreground). Soft spots in the beam are reduced and yarn elasticity kept high.

Compact, flexible drive also cuts yarn breaks at large Eastern mill

A new General Electric packaged slasher drive was recently installed at Mohawk Carpet Mills, Amsterdam, N. Y., to size carpet-backing yarn. In this new drive, G-E adjustable-voltage d-c speed control is combined with G-E amplidyne tension control in a single, simple "package." Already the new drive has proven itself—in more yardage on the beam, fewer ends down at the loom!

COSTS LESS—THREE WAYS!

Low first cost: Mass-produced parts reduce unit price.

Low maintenance cost: Filters keep lint out of power unit; all parts are easily accessible.

Low installation cost: Just set the power pack in place and run in the conduit—costly interwiring is eliminated, space saved.

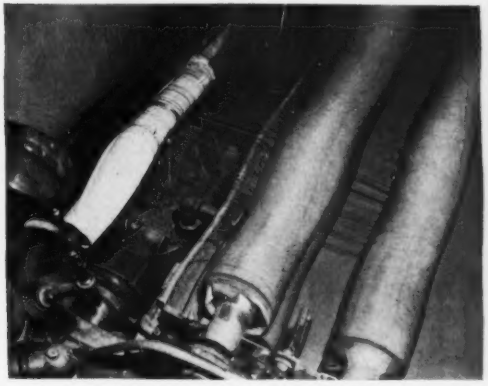
Like to learn more? Call in your G-E Textile Mill specialist. *General Electric Co., Schenectady 5, N. Y.*

PACKAGED SLASHER DRIVES FOR TEXTILE MILLS

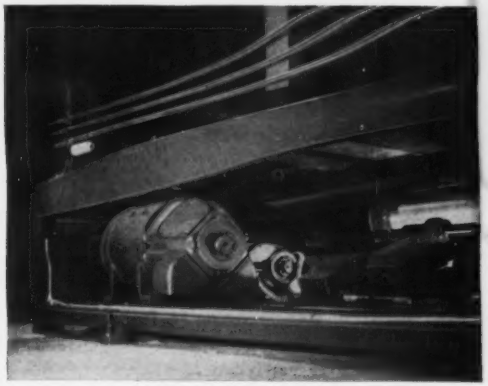
Motor "know-how" for your workers! General Electric's new Motor Selection and Application Course, an easy-to-understand visual program, can help you keep your electric equipment at top efficiency. Shows how motors work, types in use, how to select and apply them. Write for Bulletin GEA-4938-16.

1 **Compact power "package"** contains G-E motor-generator set, amplidyne, booster, exciter, and control panel—needs no special foundation. It supplies d-c power for 4 slasher-drive motors.

2 **Conveniently-located** "Fast-Slow-Stop" push-button station at operator's left is one of several for controlling speed of the entire slasher. Motor shown at bottom is a 3-hp splashproof G-E gear-motor.



3 **Completely protected** against size, this 3-hp totally-enclosed G-E gear-motor (left of size box) drives size box rolls. Speed can be adjusted to stretch or shrink yarn between size box and dryer cylinders.



4 **Tension stays constant** as beam builds up—7½-hp splashproof G-E gear-motor changes beam roll speed in response to amplidyne. The 5-hp delivery-roll motor, right, permits desired beaming tension.

GENERAL ELECTRIC

654-23

NON-FLUID OIL

TRADE MARK REGISTERED

55 Years of Leadership

For 55 years, NON-FLUID OIL has set the standard for all lubricants used in specialized textile lubrication such as applications in comb boxes, doffer, cylinder and lickerin bearings of cards, roll necks of spinning frames, and for general application on all models and makes of looms.

Don't be mislead by the latest "theories" that one grade of lubricant meeting certain "specifications" will be the answer to all your lubrication problems. Remember, there's a grade of NON-FLUID OIL for every one of your textile machines in *their present condition*. Test the grade of NON-FLUID OIL we recommend and you'll see for yourself that it provides cleaner and better lubrication at less cost than so-called "specification" oils and greases. Write for free samples and descriptive bulletin.

●

NEW YORK & NEW JERSEY LUBRICANT COMPANY

292 MADISON AVE., NEW YORK 17, N. Y. WORKS: NEWARK, N. J.

SOUTHERN DISTRICT MANAGER: Lewis W. Thomason Jr., Charlotte, N. C.

WAREHOUSES: Atlanta, Ga.—Birmingham, Ala.—Charlotte, N. C.—Chicago, Ill.—Columbus, Ga.—Detroit, Mich.—Greensboro, N. C.—Greenville, S. C.—Providence, R. I.—St. Louis, Mo.

NON-FLUID OIL is not the name of a general class of lubricants, but is a specific product of our manufacture. So-called grease imitations of NON-FLUID OIL often prove dangerous and costly to use.

an answer to the shortage of 18-8

REZISTAL 430

strong · corrosion-resistant · readily available

Gutters and downspouts are only one of many applications where Crucible Rezistal 430 Stainless Steel offers an adequate substitute for the 18-8 types of Stainless.

Rezistal 430's chromium content assures its resistance to an impressive list of industrial and natural corrosive media. In many of these, its performance approaches that of 18-8. Rezistal 430 also does well under many conditions involving high temperature oxidation and scaling. And what is most important, you can fabricate it by all the standard methods.

We will be glad to send you more information on the corrosion-resisting and mechanical properties of Rezistal 430, or to advise you on its suitability for your particular application. Write us today.

CRUCIBLE first name in special purpose steels

52 years of Fine steelmaking

REZISTAL 430 STAINLESS STEEL

CRUCIBLE STEEL COMPANY OF AMERICA, GENERAL SALES OFFICES, OLIVER BUILDING, PITTSBURGH, PA.

STAINLESS • REX HIGH SPEED • TOOL • ALLOY • MACHINERY • SPECIAL PURPOSE STEELS

for all textiles . . .

Marquette
Roller Bearing Spindles
WITH FULL-FLOATING
FOOTSTEP BEARING

give you More Yarn at lower cost

PROTECTED BY U.S. AND FOREIGN PATENTS AND PATENTS PENDING

The Marquette METAL PRODUCTS COMPANY
CLEVELAND 10, OHIO • SUBSIDIARY OF CURTISS-WRIGHT CORPORATION

Also Manufacturers of: HYDRAULIC GOVERNORS • FUEL OIL PUMPS • PRECISION PARTS AND ASSEMBLIES
WINDSHIELD WIPERS FOR AIRCRAFT, TRUCKS AND BUSSES • FUEL OIL INJECTORS

Every small worm gear unit is built to precision standards—as outstanding in quality and performance as larger size Clevelands.
Illustrated above are the 10 AT (left) and 00 D (right) speed reducers.

Enjoy the benefits of worm gear drives in smaller CLEVELAND speed reducers

WHEN you want a quiet, powerful, dependable drive for a small machine, choose a Cleveland Worm Gear Speed Reducer.

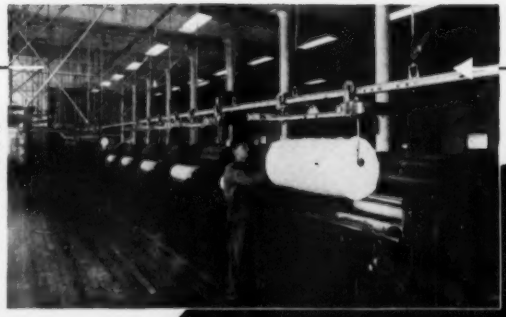
As built by Cleveland, the worm gear reducer is a drive of many advantages:

1. It is compact and inherently quiet, transmitting power with smooth, uninterrupted torque flow.
2. Its right-angled design saves valuable space.
3. It has a minimum of moving parts.
4. Shock load resistance and other factors of safety are high.
5. Rate of wear of case hardened steel worm on nickel-bronze gear is very low, insuring long life.

Write for Bulletin 114F which illustrates and gives engineering data on smaller size Clevelands—many now available for immediate delivery. The Cleveland Worm and Gear Company, 3268 E. 80th St., Cleveland 4, O.

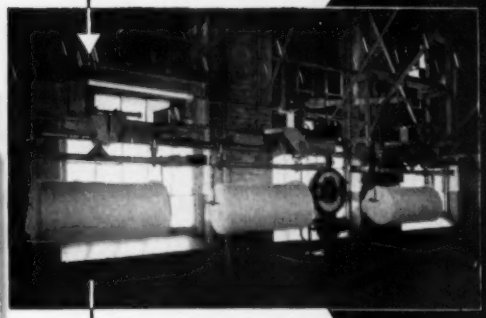
Affiliate: The Farval Corporation, Centralized Systems of Lubrication. In Canada: Peacock Brothers Limited.

CLEVELAND
Worm Gear
Speed Reducers



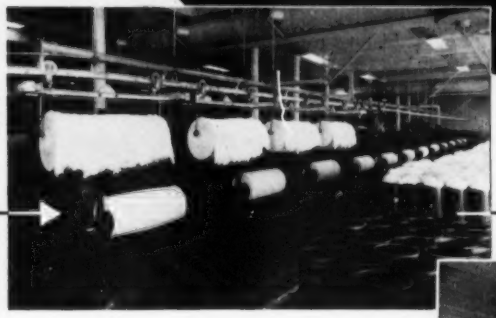
Lap Carriers roll by gravity from pickers to scale.

At the scale lap carriers move across scale section when weight is within tolerance and roll to the card room—all automatically. Signal sounds when weight is off tolerance requiring release by picker tender.



Overhead Handling *delivers* Laps to Cards *and keeps* Card Room Ceiling Clean

Train of laps move constantly throughout the card room for manual creeling of cards.



Empty carriers return to pickers. Note the high-velocity fan which sends blast of air to ceiling preventing lint accumulation.

Let your American MonoRail engineer tell you about the time and money-saving advantages of American MonoRail Overhead Handling equipment and cleaning. Just drop us a line.

THE AMERICAN MONORAIL COMPANY

13108 ATHENS AVENUE **CLEVELAND 7, OHIO**

Yarn of Identical Color from 6 Different Beams

. . . because All 6 were Dyed in the Same Bath

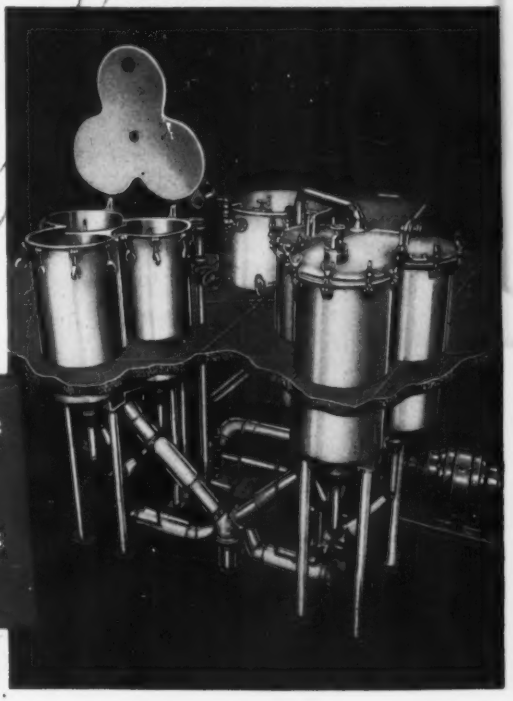
You can be positive of securing identical color only when the different beams or packages of yarn are dyed under identical conditions. And identical conditions are certain only when they are dyed in the same bath!

SMITH-DRUM Combination Beam and Package Dyeing Machines are designed to handle from 2 to 6 beams or yarn carriers simultaneously in the same bath and under identical conditions. This means that each beam or yarn carrier is dyed with the same liquor ratio . . . under the same operating conditions of flow, pressure and temperature . . . with uniform distribution of additions to the dye bath.

If you are interested in absolute uniformity of dyeing results, in economy of operation, in saving of floor space . . . let us arrange to have one of our representatives discuss the possible application of this SMITH-DRUM Machine to your operations. A letter, telephone call or wire will receive our prompt attention.

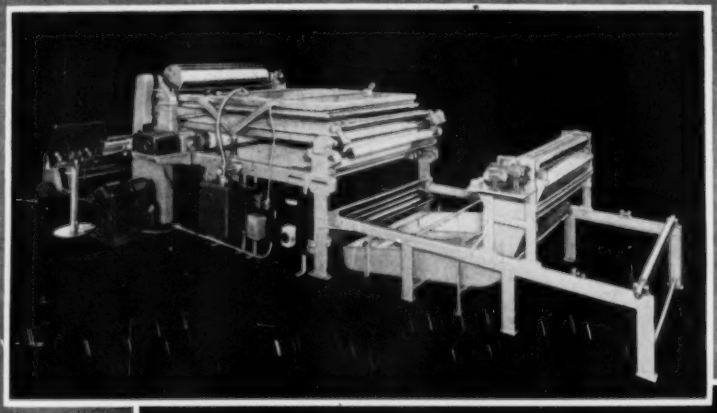
SMITH, DRUM & COMPANY
432 W. Allegheny Avenue, Phila. 33, Pa.

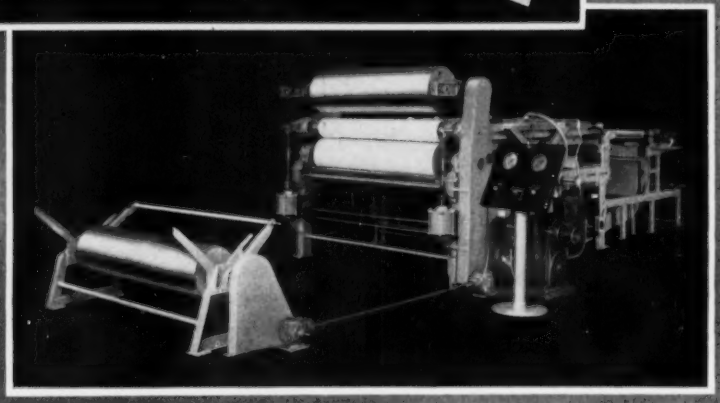
Southern Sales Representatives:
PARROTT & BALLENTINE
610 South Carolina National Bank Bldg.
Greenville, South Carolina



The **SMITH-DRUM** *Machine that Dyes from 2 to 6 Beams or Yarn Carriers in the Same Bath!*

Free copy of Catalog No. PBD-801 will be sent to you on request





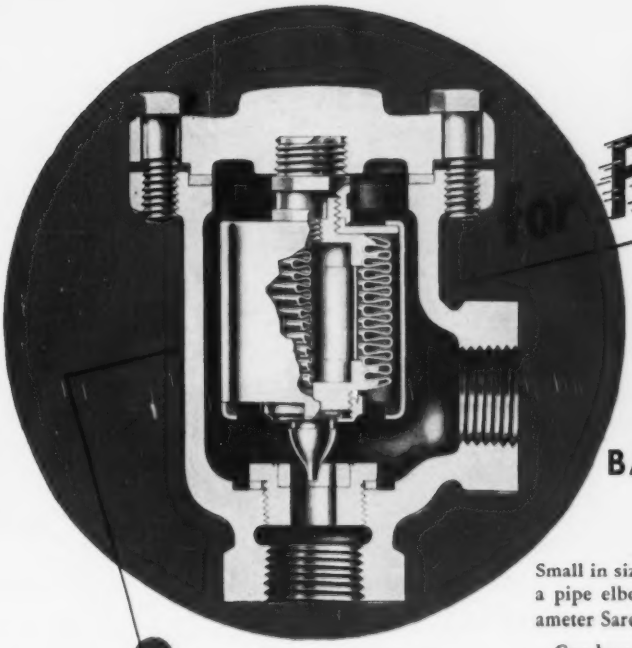
The Perkins Vinyl Embossing Machine produces quality roll embossing. This unit is engineered and built to meet exactly the requirements of the plastic converting industry, economically, in fine detail.

And . . . the Perkins Vinyl Embossing Machine is readily adaptable to use your existing rolls.

B. F. PERKINS & SON, Inc.

HOLYOKE, MASS., U.S.A.

LARGEST MANUFACTURERS OF CALENDER ROLLS IN THE WORLD



for FAST ACTION

use

SARCO

BALANCED PRESSURE THERMOSTATIC STEAM TRAPS

Small in size; light in weight, as easy to install as a pipe elbow, these new traps employ large diameter Sarco bellows proportioned to trap size.

Condensate only a few degrees below steam temperature snaps the large valve wide open. That means rapid and complete venting of air and non-condensables.

It means also exceptionally large condensate capacities.

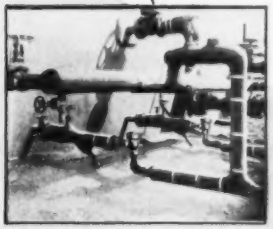
Actually the balanced pressure type thermostatic trap has the highest discharge capacity per dollar cost.

Other advantages: no seats to change when pressures change (fewer spares to carry); requires no protection against freezing.

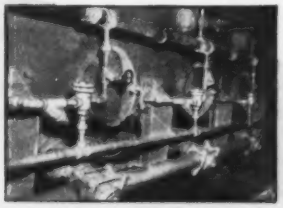
Sarco Thermostatic Steam Trap No. 9, available in sizes ½" to 2" for pressures to 300 psi. Bellows are phosphor bronze, monel or stainless steel as required, shielded from abrasion. Renewable valve heads and seats are of stainless steel.

WRITE for free copy of new catalog 256

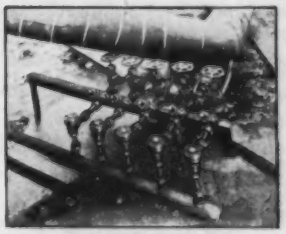
355



Sarco No. 9-225 traps and strainers draining steam heating coils in crude oil storage tanks.



Sarco No. 9-125 traps and strainers on bottle washer in brewery.



Sarco No. 9-300 traps and strainers removing air and condensate from steam tracer lines maintaining asphalt to storage tanks at pumping temperature.

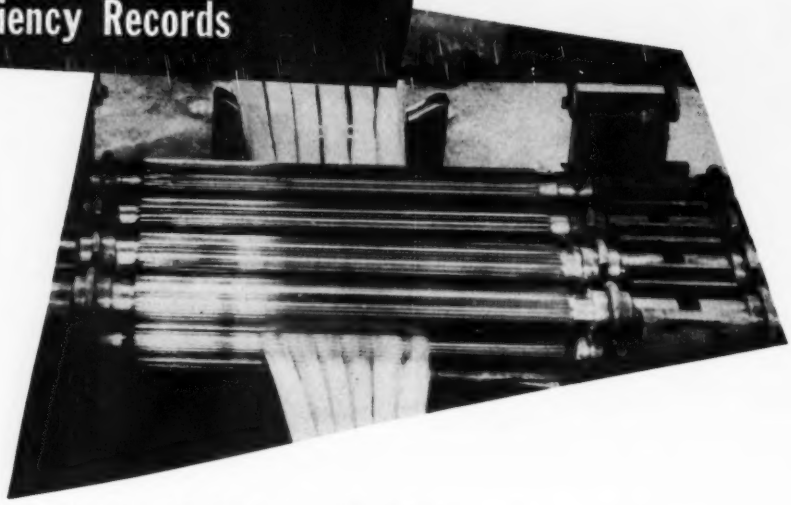
SARCO COMPANY, INC.

EMPIRE STATE BUILDING, NEW YORK 1, N. Y.

SARCO CANADA LTD., TORONTO 5, ONTARIO

REPRESENTED IN PRINCIPAL CITIES

Ideal High Speed Ball Bearing Drawing Rolls* Shatter All Previous Efficiency Records



Three Ideal units will outproduce five of the best types previously known . . . and produce better yarn as well.

A survey among operators of many hundreds of Ideal units shows an average reduction of 26.9% in variation of drawing sliver, 20.5% in yarn numbers, and a 7.4% improvement in breaking strength. In many cases Ideal units were credited with more than doubling the production per frame. These carefully kept records also showed a reduction of 7.5% in ends down in roving and 27.5% in spinning.

This survey showed such an improvement in performance, efficiency, and yarn quality that old standards can no longer be used. Ideal Drawing Rolls save on original cost, labor, floor space, and maintenance. Don't replace your present drawing rolls until you have investigated the great advantages of Ideal High Speed Drawing Rolls. Write or wire for full information.

Ideal Industries, Inc.
Bessemer City, N. C.

* patented

For more information, write direct or use Reader Service post card.

Your merchandising plans are "sitting pretty"

WITH H&D DISPLAY BOXES

Turn the sales spotlight on your product and put shoppers in a buying mood with H & D corrugated display boxes. Designed for protection as well as attraction, these economical boxes prompt point-of-decision purchases by telling a convincing story and demonstrating product uses and sales features.

It will pay you to *pack to attract* in H & D corrugated boxes . . . available in many styles and in your own design and colors. For real help, real service in solving your merchandising problems call in an H & D Package Engineer.

Write for free copy of "Pack To Attract," a 26-page portfolio of merchandising ideas. Hinde & Dauch, 5215 Decatur St., Sandusky, Ohio.

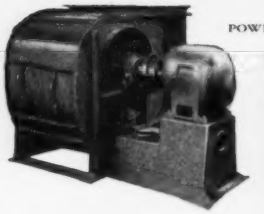
H&D

HINDE & DAUCH

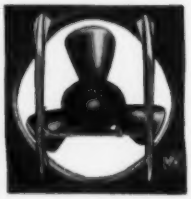
Authority on Packaging

Atlanta, Baltimore, Bell's Corners, Ont., Bennington, Ill., Bellefontaine, Ohio, Chicago, Cincinnati, Cleveland, Columbia, Conn., Corinth, Miss., Detroit, Elmira, N. Y., Fairfield, Conn., Findlay, Ohio, Greenville, Ohio, Ft. Wayne, Ind., Greensboro, N. C., Hamilton, Ontario, Jeffersonville, Ind., Kansas City, Kans., Kansas City, Mo., Lancaster, Pa., Lockport, N. Y., Minneapolis, Minn., Painesville, Ohio, Parkersburg, W. Va., Pittsburgh, Pa., Richmond, Va., Rochester, N. Y., Rockford, Illinois, Sandusky, Ohio, Shrewsbury, Mass., St. Louis, Toledo, Watertown, Mass.

AXIAL FLOW FANS

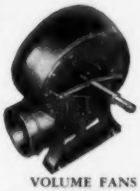


POWER PLANT FANS



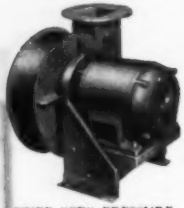
BREEZO FANS

LIMIT-LOAD FANS

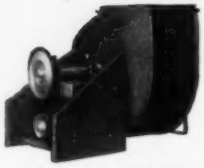


VOLUME FANS

75 years of building dependable air handling equipment



TYPE "CB" PRESSURE BLOWERS



BELTED VENT SETS

TYPE "CC" PRESSURE BLOWER

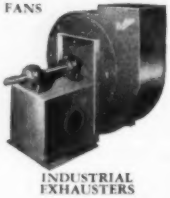
RE BLOWERS-EXHAUSTERS

BABY CONOIDAL FANS

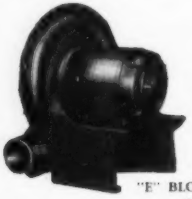
BELT AIR FANS

Efficient Air Handling Units
To Satisfied Customers
Since 1877

We welcome the opportunity to solve *your* problem.



INDUSTRIAL EXHAUSTERS



"E" BLOWERS-EXHAUSTERS

SHORTBOY VENTILATING SETS

DIAMOND JUBILEE 75TH ANNIVERSARY

"Buffalo" FIRST FOR FANS

BUFFALO FORGE COMPANY

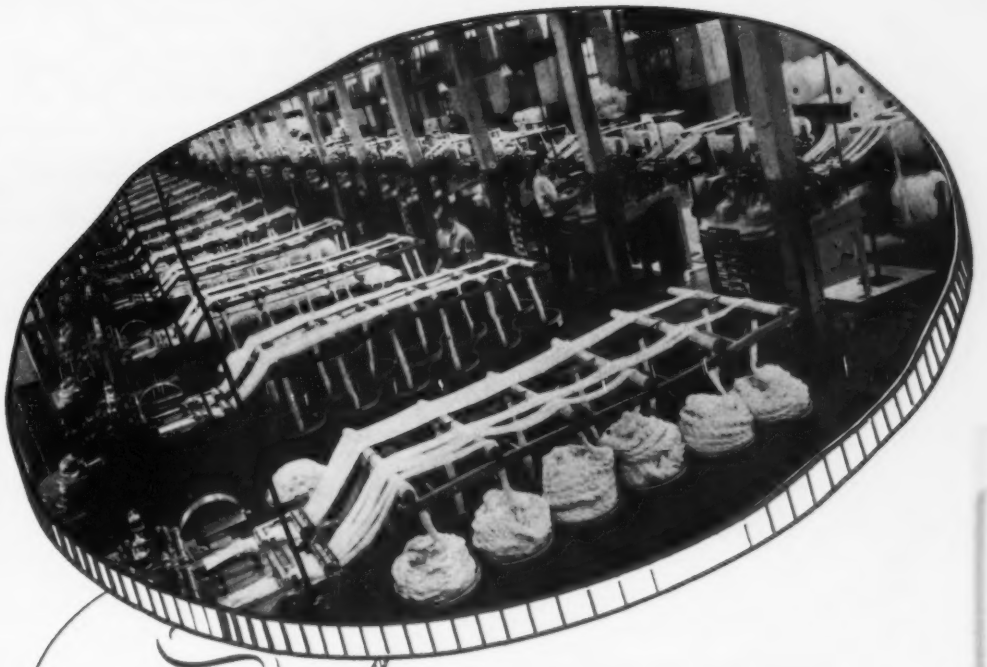
184 MORTIMER ST. BUFFALO, NEW YORK

PUBLISHERS OF "FAN ENGINEERING" HANDBOOK

Canadian Blower & Forge Co., Ltd., Kitchener, Ont. Sales Representatives in all Principal Cities

VENTILATING	PRESSURE BLOWING AIR CLEANING	COOLING AIR TEMPERING	HEATING INDUCED DRAFT	FORCED DRAFT EXHAUSTING

For more information, write direct or use Reader Service post card.



"These Pin Drafters will pay for themselves—*FAST!*"

THAT'S WHAT we've been told by mills using Pin Drafters to modernize their combing and drawing departments. These mills naturally expected the Pin Drafters to pay for themselves in a reasonable period of time. But they were amazed to discover almost immediately that these new machines would pay for themselves in 18 to 36 months!

Once in production, they could see the additional profits their mills would get through savings on waste and labor costs, plus production increases—all through the use of Pin Drafters!

Find out how you can add such profits to your operations by asking our nearest Field Engineer.

WARNER & SWASEY PIN DRAFTER

- Eliminates costly steps in preparation of sliver for roving
- Produces better, more evenly blended sliver in greater volume
- Uses either can sliver or ball top
- Handles wool or synthetics—blends of either or both
- Applicable to French, Bradford, or American systems

BRANCH OFFICES:

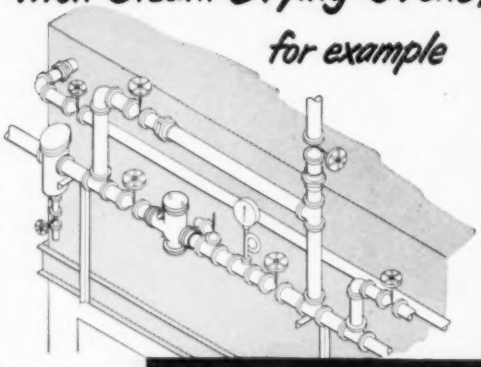
61 Rivulet St., North Uxbridge, Mass.
6910 Market Street, Philadelphia, Pa.
Candler Building, Atlanta, Georgia

WARNER & SWASEY
TEXTILE MACHINERY DIVISION

YOU CAN PRODUCE IT BETTER, FASTER, FOR LESS...WITH A WARNER & SWASEY

Are Your Pressure Regulators Doing As Well?

...on Steam Drying Ovens, for example



THE INSTALLATION

In steam supply line to battery of 2 drying ovens at Ferro Chemical Corporation, Bedford, Ohio. Ovens individually controlled by thermostatic valves.

THE HISTORY

Specifications called for a valve to reduce initial steam pressure of 70 psi to 13 psi, and to maintain reduced pressure automatically without significant fluctuation whether one, or both, or neither oven is operated. Ovens to be operated at same or different temperatures, depending on process requirements.

Specifications were met with one No. 960 Crane Pressure Regulator, properly selected for capacity, and installed with adequate drainage of condensate.

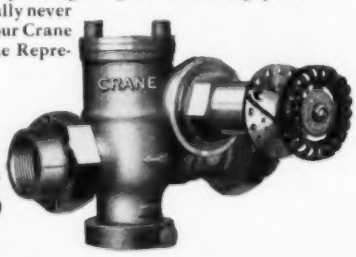
In service now more than 5 years without interruption, Crane Pressure Regulator is giving complete satisfaction. Working like new; maintenance cost to date: zero. Remarkably simple to adjust.

VALVE SERVICE RATINGS

SUITABILITY:	Does everything claimed for it
MAINTENANCE COST:	None; working like new
CORROSION-RESISTANCE:	Steam only - corrosion no problem
SERVICE LIFE:	In 5 years; no sign of wear
OPERATING RESULTS:	No fluctuation of oven heat
PRICE:	Good buy
AVAILABILITY:	Regular Crane item

THE VALVE

Crane No. 960 Brass Pressure Regulator reduces 250-Pound steam or air inlet pressure up to 80%. Available for operation at any of 4 pre-set ranges within 1 to 200 pounds outlet pressure. Adjusts easily within any set operating range. All wearing parts renewable; virtually never wears out. See your Crane Catalog or Crane Representative.



The Complete Crane Line Meets All Valve Needs. That's Why

More Crane Valves Are Used Than Any Other Make!

CRANE VALVES

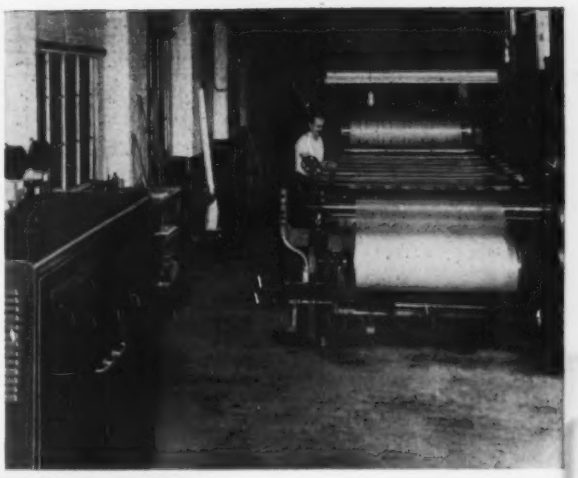
CRANE CO., *General Offices:* 836 S. Michigan Ave., Chicago 5, Illinois

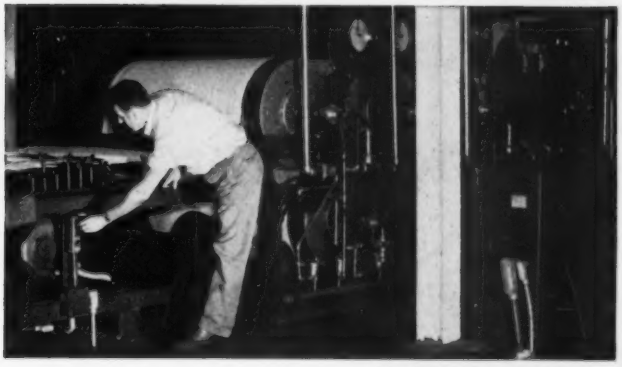
Branches and Wholesalers Serving All Industrial Areas

VALVES · FITTINGS · PIPE · PLUMBING · HEATING

More flexible control of slashers typifies performance which makes RELIANCE V★S *preferred drive in the textile industry* . . .

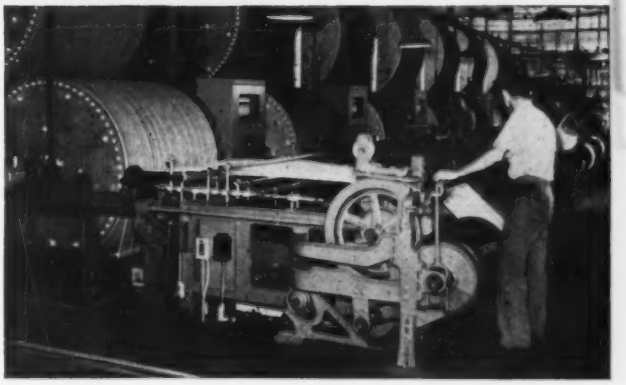
Multi-motor Reliance V★S Drive, with V★S electronic controls, provides greater operating flexibility for this slasher. This flexibility includes slow, stable creeping speed; pre-set running speeds and smooth, adjustable rates of acceleration and deceleration. The all-electric, adjustable-speed V★S Drive also provides stepless speed change for moisture control and maintains constant tension during beam build-up.





Electronic controls, integrated with Reliance V★S Drive, make independently adjustable acceleration and deceleration of slasher to pre-set speeds a simple matter of rheostat adjustment while machine is at rest or during production. Reliance electronic controls have no mechanical limitations —they provide extremely wide ranges of accelerating and decelerating rates.

Easy-to-operate controls of the Reliance V★S Slasher Drive are conveniently grouped and located where operator can quickly and safely control his machine. Completely-packaged, factory-wired V★S Drive saves space —is easy and inexpensive to install, simple and economical to operate, requires a minimum of maintenance. More complete details available to textile mills and equipment manufacturers in Bulletin K-2025 and in Bulletin D-2311 on Reliance V★S Drives from ¾ to 300 horsepower.



Sales Representatives in Principal Cities

RELIANCE ELECTRIC AND ENGINEERING CO.

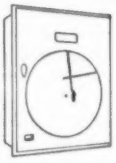
1086 IVANHOE ROAD, CLEVELAND 10, OHIO

MEASURING FLOW FOR ALL INDUSTRY

THROUGH the arteries of industrial processes flow countless fluids. Whether they are used by the barrel or by the drop—their rate of flow is closely related to operating efficiency. For this reason, accurate measurement and control of flow have assumed high responsibilities in process supervision in practically every industry.

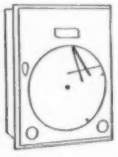
Because so many varied flow metering applications exist, Honeywell has developed several different families of instruments . . . each suited to a specific purpose. To work with these instruments, Honeywell engineers have designed meter bodies capable of metering the full gamut of industrial fluids, from viscous and corrosive to hot and high-pressure.

for flow accounting



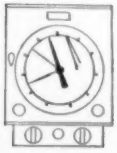
Cost accounting based on consumption of steam, water and other fluids is facilitated by the Brown Evenly Graduated Flow Meter. Its linear scale is easy to read at all flow rates. Its electronic integrator sums up total flow rapidly, accurately . . . is constructionally simple and easily maintained. This instrument is available as a mechanical meter with integral meter body, or as an electric receiver with remote transmission from a distant electric meter body.

for automatic control



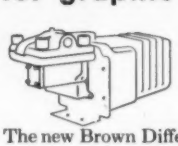
Where automatic flow control is the prime consideration, the Brown Square Root Flow Meter affords extra sensitivity by virtue of its expanded scale. It can be supplied with a wide selection of electric and mechanical meter bodies: low pressure, intermediate pressure and all-purpose; sealed armature type for corrosive materials. Interchangeable range tubes facilitate field change of calibration.

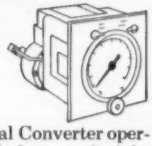
for flow proportioning



Many processes require that flows of two fluids be proportioned to each other—as, for example, fuel and air. For applications of this type, the *ElectroniK* Flow Meter combines many functions in one instrument case. It controls flow in the line which it is metering, resets its control index from a pneumatic signal transmitted to it from another instrument, and in turn retransmits the signal to a third indicator or controller. Cascade control of this sort holds temperature, air flow and fuel flow continuously in balance. The *ElectroniK* flow meter can be equipped with electronic integration . . . utilizes electric transmission from a remote meter body.

for graphic panels

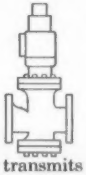




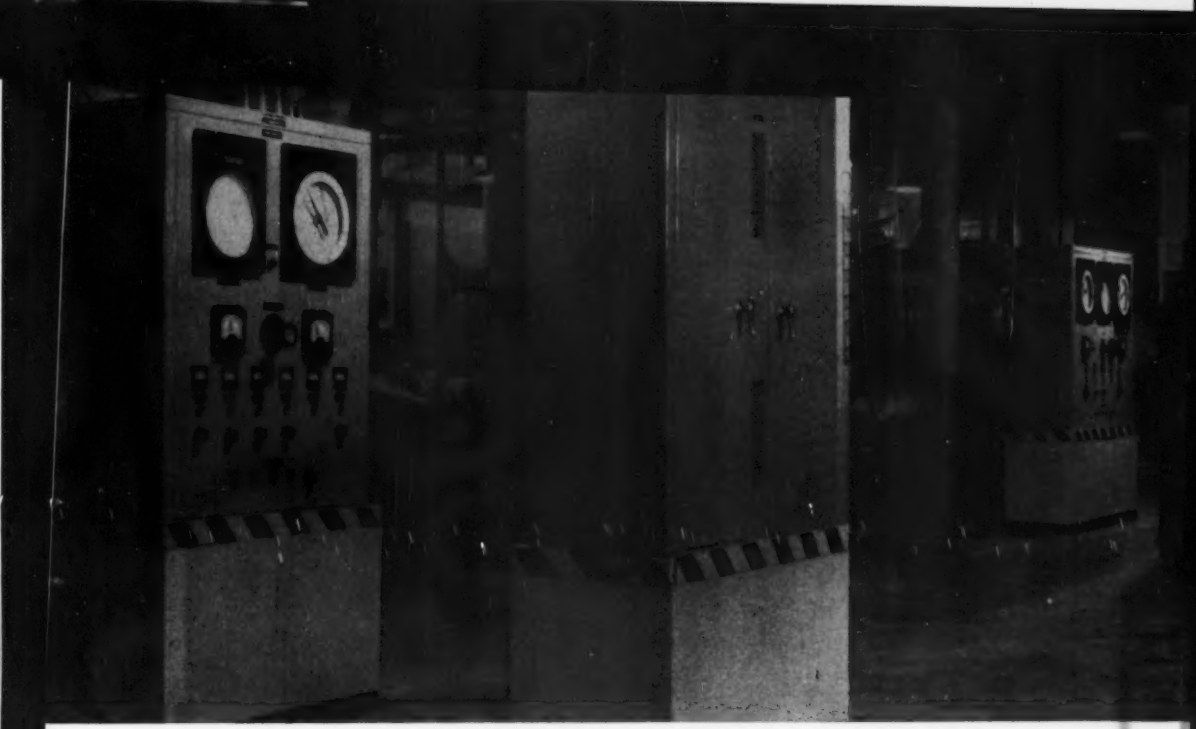
The new Brown Differential Converter operates on the pneumatic balance principle. Of sturdy construction, it uses no mercury, seals or strainers, is especially useful for metering corrosive fluids. It converts the measured pressure differential into a proportionate air output pressure, which actuates a remote flow-measuring instrument. Quick-responding and accurate, the converter is the ideal companion for miniature *Tel-O-Set* indicators, recorders and controllers. *Tel-O-Set* instruments are especially designed for top performance in graphic panel service . . . require only small panel space.

Modern processes demand

for viscous fluids



Flow of heavy oils, hot tar and other viscous liquids is readily measured by means of the Brown area type meter body. This unique device doesn't clog even with materials which would be difficult to measure by other methods. It transmits electrically to the remote meter, and produces a linear output which permits use of an evenly divided instrument scale.



Recording and integrating flow meter at top left of cubicle totalizes steam flow to continuous bleaching range.

in the textile industry

accurate flow control

THROUGH the use of Honeywell flow meters, production men can tell exactly how much process steam is going to each department and to each machine . . . can spot any sources of waste . . . can readily compare efficiencies. Boiler room operators, by comparing metered steam outputs, can maintain economic distribution of load among boilers—a prime requisite for efficient steam generation. For all cost accounting applications, the Brown Evenly Graduated Flow Meter affords the advantages of electric transmission, readable uniform scale, and accurate electronic integration.

Many individual processes operate more efficiently when Brown Flow Controllers automatically regulate the rate at which steam or water is used. Typical of these are vat aging, wool scouring and continuous bleaching. Operating as part of a coordinated control team, or as independent controllers, these instruments hold flow accurately and steadily at the specified values for greatest uniformity of product and most efficient operation.

Wherever flow metering is needed in your mill, it will pay you to look to Honeywell . . . for the right instrumentation, and for the engineering experience to apply it correctly to your own operations. Our local representative will be glad to discuss applications in your plant. Call him today . . . he is as near as your phone.

MINNEAPOLIS-HONEYWELL REGULATOR CO., *Industrial Division*, 4509 Wayne Ave., Philadelphia 44, Pa. Service available from more than 55 offices in the United States.

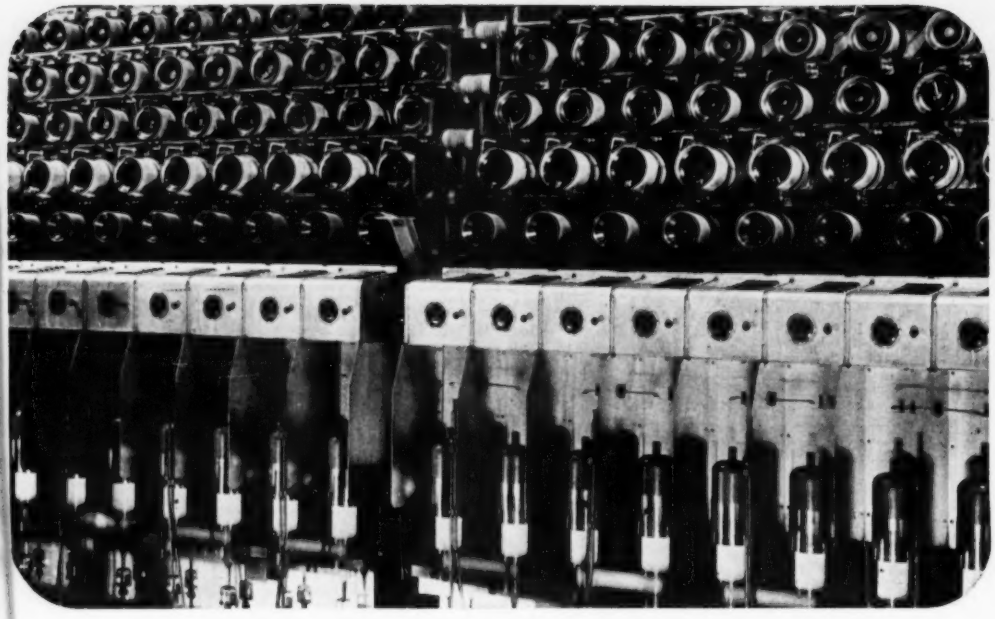
MINNEAPOLIS
Honeywell
BROWN INSTRUMENTS
First in Controls

● *Important Reference Data*

Write for Composite Catalog No. 5000 . . . and for Data Sheet No. 8.1-34, "Brown Flow Meters Increase Efficiency in Textile Mills."

"ELC"

Pays off in production of synthetics



When you buy essential new equipment for the production of synthetics, you'll want to consider the many advantages of Armco "ELC" Stainless Steels.

These special stainless steels are just as corrosion resistant adjacent to the welds as elsewhere. The reason is the Extra Low Carbon content (.03% maximum) of Armco Types 304L and 316L.

Ideal for synthetics

Extra Low Carbon eliminates costly corrosion alongside weld areas when it is due to the heat effects of welding. This is especially important if your equipment is used in producing certain synthetics where the chemicals used may affect weld areas in standard stainless steels.

Another important advantage is that Armco ELC grades *cost less* than corresponding types stabilized by the addition of columbium or titanium.

Wide range of uses

Armco ELC grades can cut operating costs and prolong service life in agers, bleaching and fulling machines; in carbonizing equipment and dye kettles; and in all kinds of equipment for the production of synthetics. They are not recommended when service temperatures are above 800 F.

Find out how *you* can take advantage of the special properties of Armco ELC. Just write us, or ask your equipment fabricator to inquire.

ARMCO STEEL CORPORATION

3732 Curtis Street, Middletown, Ohio • Plants and sales offices from coast to coast • Export: The Armco International Corporation

ARMCO

INSIST ON
THE ORIGINAL

UNMATCHED "KING-CLIP" VALVE

AVAILABLE IN 21 PATTERNS FOR HUNDREDS OF SERVICES

Install the original Lunkenheimer "King-clip" wherever you need small and medium-size iron gate valves built to stand up under hard usage. It has been paid the high compliment of imitation — but is still unparalleled for workmanship and outstanding features. The distinctive steel clip provides unusual strength; the hand wheel has extra torque for easier, tighter closing; the famous Stemalloy* bronze stem travels in a special bronze bushing — never touches iron. Both Iron-Body-Bronze-Mounted and All-Iron designs are available. Ask your distributor for details.

IRON • STEEL • BRONZE

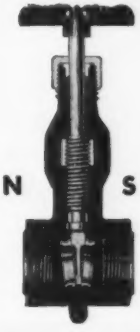


Fig. 1640
I. B. B. M.

WRITE FOR "King-clip" Circular 561, which will help you select the right "King-clip" Valve for your specific piping problem. The Lunkenheimer Company, Box 360R, Cincinnati 14, Ohio.

* Patented Alloy

LUNKENHEIMER
THE ONE *Great* NAME IN VALVES

L-252-B

He's a great mibs shooter—BUT

How does he compare with Windy Allen?

Windy Allen, 13, of Beckley, West Virginia, won the championship in the Boys' Division at the National Tournament in Asbury Park, N.J. in 1951. After five days of play, he had defeated all the finalists drawn from the 2 million entrants throughout the U. S.

In everything we do, we make comparisons . . . In Full-Fashioned Knitting, the one standard for comparison is the 30-section "Reading" Machine with a production of 14 to 16 dozen pairs of superior quality stockings in 8 hours. Simple and flexible in operation. 51-gauge, 60-gauge.

TEXTILE MACHINE WORKS • READING, PENNA.

MANAGEMENT BY EXCEPTION

Systems are a tool of administration used to insure that certain activities take place according to predetermined standards. Exceptions may be expected to arise, and should, in fact, be looked for.

Some systems are established so that the administrator may have time to deal with the exceptions. This method is referred to as the principle of management by exception.

This Principle . . . And This Machine . . .

Help Hathaway Control EFFICIENCY AND QUALITY

►A 1,200-tube electronic calculator can figure efficiency of or quality produced by any one of Hathaway Mfg. Co.'s 3,300 looms in 0.6 sec., or at the rate of 100 a minute. Here's the story of how Hathaway uses this speed to turn out reports that help management put the finger on troubles almost as soon as they happen.

By **WILLIAM A. NEWELL,** Consulting Editor, TEXTILE WORLD

HATHAWAY MFG. CO., New Bedford, Mass., is effectively applying the principle of management by exception to production, cost, and quality control with the help of an electronic calculator made by International Business Machines Corp. The calculator is used for other purposes as well, as computing payrolls, and for checking on dyeing and maintenance costs.

No mill man disagrees that the principle of management by exception is a sound one for individual control of the various factors that go into a successful operation. Trouble is, they say, you have to check on each individual machine, operator, and supervisor to get the whole picture and to see where the trouble spots are. It adds up to a lot of arithmetic, and by the time the results come through, the problem is weeks old.

True enough. To operate the principle effectively, for weaving, for instance, production, efficiency, and quality produced must be computed for each loom, each weaver, each fixer, each shift, and each overseer. Even with electric calculators and a battery of clerks, the job takes plenty of time. And speed is essential, for by the time you find out a loom or weaver is below standard in efficiency or quality, the warps will have run out, or the loom will be fixed, or most anything can happen.

But, at Hathaway, management—from top man to overseer—has reports on Thursday covering operations for the previous week. Machines, operators, or supervisors operating below standard can be checked on immediately.

And Hathaway's job isn't easy. The mill has 3,300 looms and 2,000 employees. It also has three divisions—cotton, rayon, and nylon—each producing a wide variety of styles.

Secret of Hathaway's speed is its IBM electronic calculator. This machine does computations involving addition, subtraction, multiplication, and division at the rate of 100 a minute. Once cards are punched, for instance, calculations giving the efficiency of each loom in the mill can be made in 33 min.

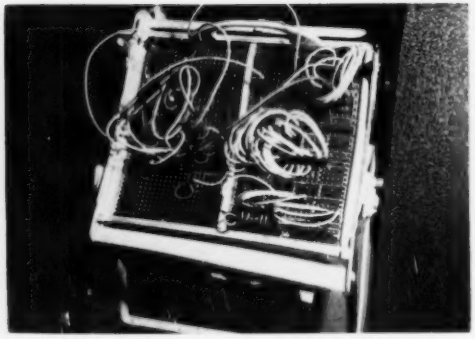
How the Unit Helps Check Efficiency

Let's see how the machine works in production and quality control in weaving.

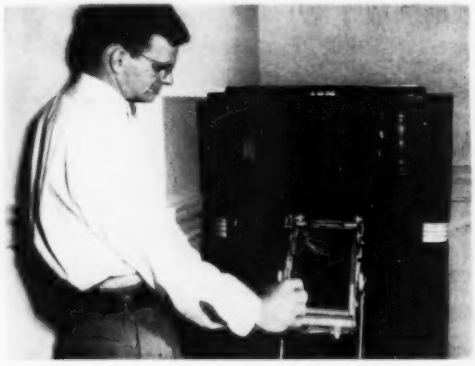
After the final shift closes down at the end of the week, pick-clock readings for each loom are recorded. On Monday and Tuesday of the following week, the information is

Here's How the Calculator Works . . .

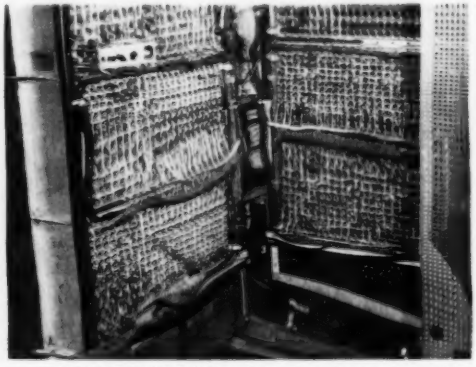
1 INFORMATION FROM PUNCHED CARDS fed to this card-punch machine is read off by electric-contact brushes and transmitted to storage positions in the calculator.



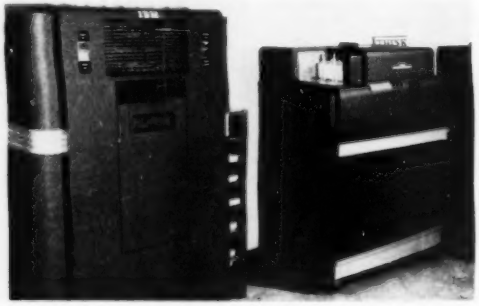
2 PROGRAMMING UNIT on the card-punch machine "tells" it what information is wanted for a particular calculation, and feeds it to the calculator.



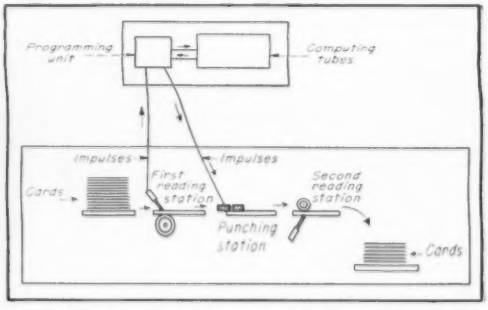
3 PROGRAMMING UNIT on the calculator receives information from the punch machine, and "tells" the tubes what to do with it and in what order the computations—adding, subtracting, multiplying, and/or dividing—should take place.



4 1,200 ELECTRONIC TUBES inside the calculator can transmit up to 50,000 impulses per second. This fast-as-light speed can solve equations and punch the answer at the rate of 100 cards a minute. Test cards are used to check up on functioning of all tubes.

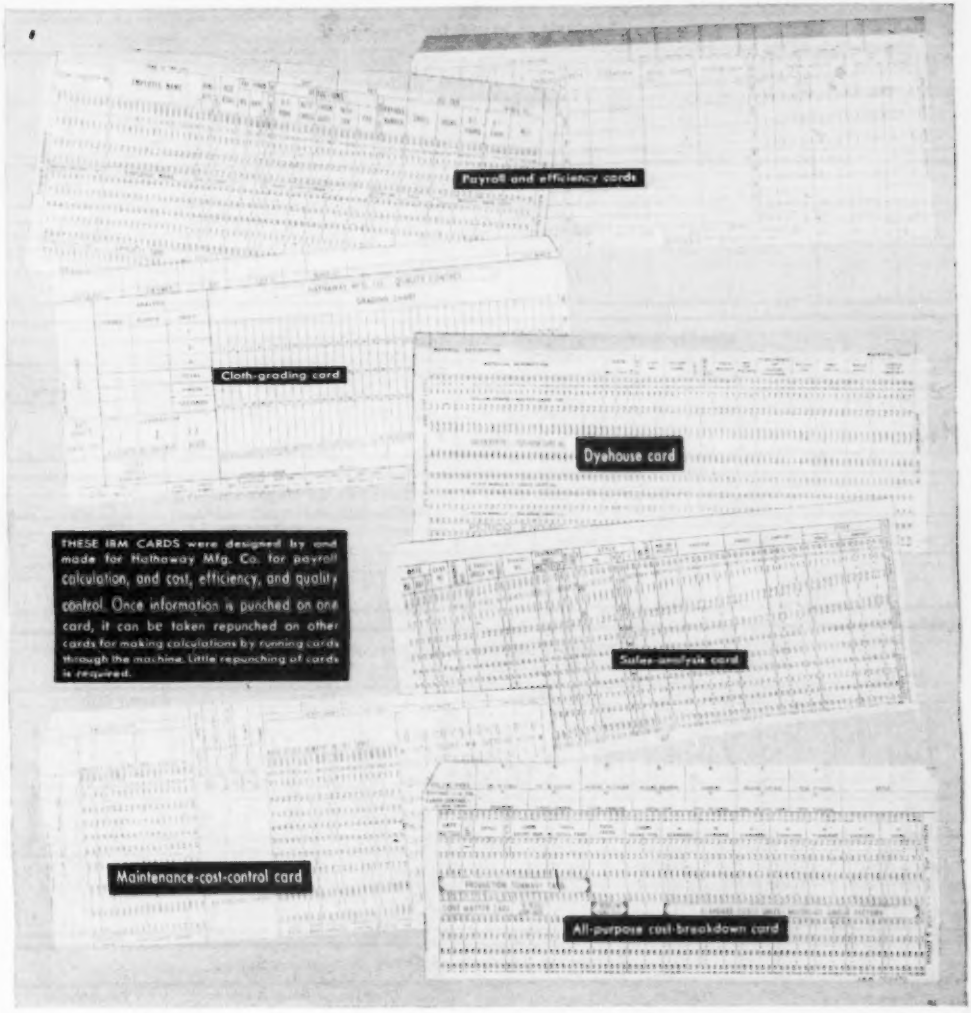


5 THE ANSWER to various equations obtained by the electronic calculator (left) is then transmitted back to the card-punch machine (right) where the correct answer is punched into the card. Cards are then run through a tabulator that automatically types information on a stencil from which reports are reproduced and circulated to management. Reports break down efficiency and quality by style, loom, weaver, fixer, or overseer.



6 DIAGRAMMATICALLY, here's how the set-up works. As cards with certain information punched in them pass through the first reading station, information called for by the programming unit is taken off. This information is then transmitted to the computer where its programming unit controls the computation. The answer is then sent back to the punch machine where it is punched into cards at the second reading station.

Here Are the IBM Cards Used by Hathaway . . .


Payroll and efficiency cards
Cloth-grading card
Dyehouse card
THESE IBM CARDS were designed by and made for Hathaway Mfg. Co. for payroll calculation, and cost, efficiency, and quality control. Once information is punched on one card, it can be taken repunched on other cards for making calculations by running cards through the machine. Little repunching of cards is required.
Sales-analysis card
Maintenance-cost-control card
All-purpose cost-breakdown card

punched in IBM cards one for each loom, specially designed for Hathaway's operations. These cards also carry the loom number, weaver's number, fixer's number, shift number, overseer's number, and other information.

On Wednesday, the cards are run through the calculator to make up the payroll. In this operation alone, the calculator figures gross pay, figures and deducts the withholding tax, based on the dependency rate, figures and deducts the social security tax, deducts hospitalization insurance, group insurance, bonds, and union dues, and punches each figure *and* the net pay in the card—all in 0.6 seconds, or at the rate of 100 per min.

Once the payroll is figured and tabulated, the same cards are used, along with holes gang-punched in them showing standard efficiencies, to calculate efficiencies. The punched cards are sorted successively by fabric style, weaver, fixer, shift, and overseer, and then run through the calculator. About 33 minutes later, efficiencies calculated can be tabulated automatically on a Ditto stencil and reports sent to all concerned. The calculator and tabulator even put a symbol beside each efficiency that is below standard so that management can immediately spot which machines, operators, fixers, or supervisors are below standard. Management then finds out the reason for below-standard figures and does something about it—management by exception in action.

How the Unit Checks on Quality

Applying the exception principle again, Hathaway controls its quality by checking quickly on those looms,

Here Are Some of the Reports Hathaway Gets Through IBM Equipment...

Analysis of Inspector Grading

Insp. No.	Inspector's Name	Order No.	Total			Seconds			% Seconds
			Yards	Points	Ratio	Yards	Points	Ratio	

Weekly Individual Loom Quality Report

Dept. No.	Fixer Set No.	Weaver Set No.	Loom No.	Order No.	First Shift			Second Shift			Third Shift			Total		
					Yds.	Pts.	Ratio	Yds.	Pts.	Ratio	Yds.	Pts.	Ratio	Yds.	Pts.	Ratio

Quality Ratios By Fabric Code and Order No. - Cotton

Dept. No.	Fabric Code	Order No.	Total			Firsts			Seconds			% Seconds
			Yards	Points	Ratio	Yards	Points	Ratio	Yards	Points	Ratio	

Overseers' Quality Ratios and Percent Seconds By Departments

Dept.	Shift	Name	Ratio % Seconds	Week ending						

Quality Ratios By Occupation

Occupation..... Type Defect Listed.....

Dept. No.	Set No.	Total Yards	Seconds Yards	% Seconds	First Shift					Second Shift					Third Shift				
					Yards	Points	Quality Ratio	Equiv. Defects	Defect Ratio	Yards	Points	Quality Ratio	Equiv. Defects	Defect Ratio	Yards	Points	Quality Ratio	Equiv. Defects	Defect Ratio

Customer Analysis of Sales Period Ending.....

Customer Name	Cust. Code	Sales Amount	Total Yards

weavers, fixers, shifts, and overseers whose performance is below standard.

To do this job, Hathaway uses a simple point system for grading fabric —10 points for a minor defect, 20 for a major defect. Any piece that has more than twice as many points as yards is classed as a second.

IBM cards for making up quality-control reports are marked by the cloth-room inspectors. One card is used for each piece produced. But here, Hathaway has a neat trick for checking quickly on looms making seconds. The IBM card is under a carbon-paper sheet, and defects are actually marked on a thin-paper facsimile card on top of the carbon. If a piece is a second, the paper top sheet is torn off and sent immediately to the weaving overseer who can check immediately to find out why the loom is making second-quality cloth. The IBM card is sent to the IBM section for punching.

Once defects are recorded on the cards by punching, cards are sorted successively by fabric style, weaver, fixer, overseer, shift, etc. The electronic calculator performs the mathematical calculations—again at the rate of 100 cards a minute—and percentage seconds, and what Hathaway calls a "points-to-yards ratio," are punched in the cards. The IBM tabulator then turns out the report on a stencil, and reports are distributed to all concerned for immediate action if called for.

Hathaway keeps its electronic calcu-

Cotton Div. Seconds Position and Efficiencies Weekly and To-Date Report

Fab. Code	Order No.	Lms. On	Lms. Req.	Lms. +	Lms. —	This Week						To Date			Del. Pieces	
						Woven Pieces	Total Yd.	Seconds Yd.	% Secs.	Efficiency Std.	Efficiency Act.	Total Yd.	Seconds Yd.	% Secs.	Ahead	Behind

Weekly Weaving Production and Efficiency Report - XD and XK Looms By Yarn Code

Dept. No.	Fabric Code	Order No.	ACTUAL		100% M Picks	THEORETICAL PROD.			% Efficiency		No. Looms On
			Loom Hrs.	M Picks		Yards	Pieces	Pounds	Stand.	Actual	

No. 7 Weave South XD Efficiencies

Shift	Employee	Week ending											

Departmental Weekly Weaving Production Report - By Shift

Dept.	Shift	Order No.	Actual Loom Hr.	Actual "M" Picks	100% "M" Picks	% Efficiency	
						Actual	Standard

Weekly Weaving Production and Efficiency Report - Cotton Dept.

Dept. No.	Fabric Code	Order No.	ACTUAL		100% M Picks	THEORETICAL PROD.			% Efficiency		No. Looms On
			Loom Hrs.	M Picks		Yards	Pieces	Pounds	Stand.	Actual	

Monthly Dye House Production Control

Color Code	Color	Lot No.	Count	Machine No.	No. Packages	Pounds Processed	Total Cost	Average Cost per Lb.

Monthly Dye House Inventory Control

Code	Material Description	Purchased		Average Price	Used		Inventory	
		Pounds	Total Cost		Pounds	Total Cost	Pounds	Value

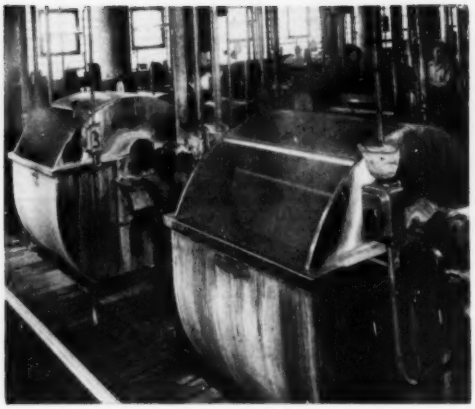
lator busy on these jobs. It runs about 50% of the time, and does other jobs besides those mentioned. Reports turned out by the unit, besides those mentioned, are:

Dyehouse inventory control
Customer analysis of sales
Analysis of sales by style
Maintenance time and cost

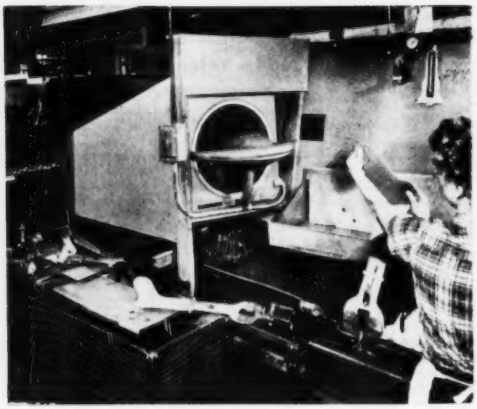
Some of these reports are shown in the accompanying illustrations.

Notice that to turn out all the reports shown, only seven types of IBM cards are required. These cards can be used over and over again to obtain various combinations of information by use of an IBM automatic sorter. And little extra punching, beyond that needed for payroll is needed. Once pick clocks are read, for instance, and figures punched, little or no additional punching is required to get the desired reports.

Do you need a Ph.D. to operate the units? Not at all. Like many complex machines, IBM units operate on simple principles. Most complex operation, perhaps, is that of "programming," or setting up the machine to perform operations in the proper order. To do this job calls for training, but again it's not hard once you know how. Programming the machines is simply a matter of plugging wires into the proper holes in the programming panel. Once that's done, calculations are done by the electronic tubes—and the answers come out at the rate of 100 a minute.



STAINLESS-STEEL SLIDING COVERS make temperature control easier —*a must in dyeing of synthetics.*



FORCED-AIR COOLING of dynel hose after boarding prevents distortion of hose by stripper fingers.

Knitter and Dyer Must Cooperate To Knit and Finish SYNTHETIC HOSE

► At Phoenix the problems of synthetic yarns have been solved to a great extent by careful choice of styles, techniques, and blends designed to take advantage of the good points and to minimize the poor points of the fibers.

By GEORGE M. MOISSON, Jr., Assistant Editor, TEXTILE WORLD

Phoenix Hosiery Co., Milwaukee, Wis., has put a great deal of time and effort into developing a line of synthetic and blended men's hose. Each new fiber has given special problems to the throwster, knitter, dyer, and finisher.

As problems developed they were disposed of by trial and error, and each experience added to the mill's background of technology. A company policy of using the brains and experience of their old-timers has helped immensely. There is plenty of respect shown to experienced help, and it is reflected in the way the operators try to solve their own problems. The successful mastery of synthetics knitting and finishing is the result of their cooperative efforts.

The Phoenix line includes a complete range of women's hosiery and the old standby line of men's cotton socks, but the emphasis is put here on the synthetics, alone and in blends, for here is the new technology of textiles.

These Practices Save Trouble

Several practices that are routine in the Milwaukee plant have served to reduce trouble and expense. The practices also help to assure quality production, and uniformity of dyeing and finishing results.

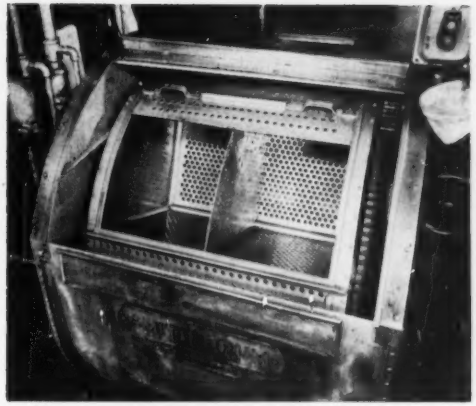
Of prime importance is the practice of keeping different lots or merges of yarn separate from each other. As yet, the suppliers of the new fibers have not consistently come up with identical fibers, batch to batch. These different lots will spin differently, dye differently, and when mixed will not knit with even tension. Careful use and complete change-over between lots will erase this problem.

In the case of spun yarns it is good practice to spin only one fiber or blend at a time— fly waste can seriously complicate the dyer's job, but it can be eliminated with proper care and cleaning between runs.

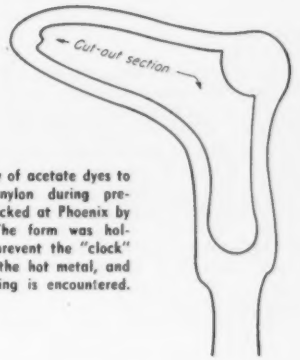
Constant wiping and cleaning of machinery is routine. The knitting machine demands oil, plenty of it. If synthetic yarns are oil-stained, a special cleaning operation is needed before dyeing, particularly in hose that are to be dyed light shades.

Inspection at each operation multiplies the efficiency of the next— as follows:

a. Knitting— each sock is checked when removed from the machine and sorted into its group, i.e., firsts, seconds, menders, soiled. The firsts go on to completion, as do the seconds, but marked separately. Menders are repaired and then finished as firsts or seconds. Soiled socks are completed and sent to the dyehouse for special treatment.
b. Looping— after looping of the toe, the operator inspects the sock. Again the socks are sorted and marked.
c. Trimming— the socks are put on perforated forms, inside out, and compressed air blows the ends out straight. A clipper with air suction attached is used to trim the ends neatly. After this trimming the socks receive another inspection.
d. Final inspection— operators check



HORIZONTAL STAINLESS DIVIDERS make possible dyeing of small, loose lots without mixing of sizes.



The tendency of acetate dyes to "bleed" into nylon during preboarding was licked at Phoenix by this gadget. The form was hollowed out to prevent the "clock" from touching the hot metal, and no more bleeding is encountered.

for flaws, and count the socks into dozen lots for gray stock.

The rates paid to the operators include time for inspection and sorting.

It has been found beneficial when knitting hose to knit two ends instead of a single or plied yarn, for several reasons:

a. "Thick and thin" places tend to even out, giving a more uniform fabric.
b. Ends down (break-outs) can be caught up and repaired before damage is done.
c. Two ends produce a softer hand than twisted yarn, and in many cases will dye better– more evenly and with better penetration.
d. The cost of twisting is eliminated.

Dyehouse Is Modern

The Phoenix dyehouse is thoroughly modern, and is laid out for efficient operation. A central drug room is used for weighing all dyes and chemicals. Every dye is tested by the laboratory before the barrel is brought up to the drug room. Rejected dye lots are few, but the constant checking has paid off. All dyes are dissolved or dispersed before being taken from the drug room.

Dyeing equipment is all covered with stainless-steel sliding covers to provide better temperature control– a very important part of dyeing the new synthetics.

A pneumatic-tube conveyor system is used to deliver samples from the dyehouse floor to the color-matching room. Samples travel in plastic cylinders, and when comparison and corrections are made, a formula adjustment is delivered in a return tube.

To provide for the variation of lot sizes, the dyehouse is equipped with machines that will handle from 10 to 300 lb. An interesting modification of a tumbler-type rotary machine was made by installing vertical stainless-steel separators to divide the machine into eight compartments. This allows dyeing of small, varied-size 'loose' lots without danger of mixing the sizes.

Automatic extractors that give identical extractions from lot to lot are another aid to the uniform treatment of goods, so essential in hosiery dyeing.

Tumble-dryers and cargo trucks of stainless steel are provided for the advantage of serviceability and easy cleaning.

New Techniques Used

The techniques of dyeing the synthetics and their blends have been developed to a fine point, and the limitations of each blend, dye methods, and finishing techniques have been recognized.

Dacron hose in a 10x4 rib, knit on a 200-needle string-work machine, using one end of 1/22½ worsted count yarn, are preboarded at 272° F. for 3 min. in a retort-type preboarder, at 29 to 30 lb. steam pressure, then cooled by forced air for ½ min. The procedure must be done uniformly from lot to lot. Preboarding stabilizes the socks during dyeing.

Dark Shades—Dacron

On dark shades, 20% Velanol NB, on the weight of the fiber, is used, plus 1% Sandopan TFL as a dispersing agent. Half the Sandopan is used to disperse the dye, the other half is placed in the bath. Bath is circulated for 2 min. at 140° F. to complete dispersion, then dry goods are added. The temperature is raised to 195° F. over 30 min.; dyeing continues for 45 min. at 195° F.

Any cotton color, if needed, may be added to this bath along with the acetate colors and exhausted with sodium sulfate after 195° F. is reached.

Sample at end of the 45-min. run. If adds are needed, they may be made at 195° F. Formulas once set up seldom or never need correction when proper care is taken to carry out the techniques.

Give two rinses at 170° F.

Soap with 2.% olate flakes at 200° F. for 10 min.

Rinse twice at 170° F.

Finish with 1 to 3% softener at 110° F. for 10 min.

Extract 2 min. in centrifuge.

Board at 220° F–do not exceed this temperature or colors will migrate.

Light Shades—Dacron

Dacron in light shades requires no carrier, only 0.5 to 1% of a good synthetic detergent is used to disperse

the dye, which is added to the bath at 180° F. Goods are added, then raised to the boil in 10 min.; run at boil 30 min., rinsed well and finished the same as dark shades. No soaping is needed.

Selected acetate colors are used on Dacron that give exceedingly good fastness, much better than the same dyes give on acetate. Their fastness might well be compared to that of vat dyes on cotton. Some vats and naphthols have been used successfully, but are not commonly used.

The experience of the mill has shown them that the hand of Dacron is very dependent on the spinning, more experimental work is being done along these lines.

The problem of dyeing Dacron yarn has been solved and the knitting of argyles in this fiber will be no problem if the demand for them should arise.

Dacron-Wool Blend

A sock of 50% wool, 50% Dacron content is being made on a 132-needle machine in a links-on-links 9x3 rib body, using two ends of 1/25 worsted count yarn, 64s wool. This sock is not preboarded. A shrink resistant treatment of popular usage is given before dyeing.

Dark shades are obtained by first shrink treating, then dyeing the Dacron in a bath containing 7% Dacronvx, on the weight of the goods. Start bath at 140° F., after washing the shrink-treated goods. Add Dacronvx, dispersed acetate dyes, and 0.5% of a synthetic detergent. Raise to 200° F. and run 40 min.
Rinse at 120° F.
Scour with 1% olate flakes at 110° F.
Rinse well at 100° F.
In a fresh bath, dye the wool with premetallized dyes, using up to 5% sulfuric acid, as needed.
Give two rinses at 100° F.
Neutralize with 1% ammonia.
Rinse well and finish with a softener.

Light shades may be obtained by dyeing with acetate dyes after shrink-treating. Start the bath at 180° F. with 0.5% synthetic detergent; and dispersed dyes, raise to the boil in 10 min., boil for 30 min. Sample, rinse well, and finish with a softener. No washfastness troubles are encountered in this method on light shades. It is well to check the fastness properties of this method if other than light shades are to be dyed, and if not good, resort to the two-bath method given above.

A heather effect is obtainable with this blend by dyeing only the wool. With proper blending, and the use of premetallized dyes, beautiful results are being obtained.

Dynel Techniques

Dynel is being used in three types

of sock: the ingrain (yarn-dyed) argyle, made of two ends of 10/1 cotton count; the 200-needle, made of two ends of 30/1 cotton count; and the 84-needle, made of four ends of 14/1 cotton count.

The special problems posed by dynel were caused by the fiber's tendency to shrink, or to full somewhat during dyeing, and the low melting and softening temperatures of the fiber.

Dynel requires no preboarding, but a knowledge of the depth of color to which the sock will be dyed is required by the knitter. This information is critical because of the different procedures used for heavy and light shades, and the sensitivity of dynel to high temperatures.

Argyles, being package dyed, require only a "fluffing" and a finishing antistatic treatment at low temperatures, therefore they are knit only one-half size larger than the actual size needed. Light shades in solid-dyed socks need be knit only one-half size large, but heavy shades, requiring more severe conditions in the dye-bath, are knit one and one-half sizes large.

Dark shades are started at 140° F. with 2% Tergitol #7, on the weight of the goods, dispersed dye is added, and the machine rotated a few minutes before adding the dry socks—loose, not bagged—to the bath. Dyeing loose gives much better results with dynel.

The dyeing temperature of dynel is so critical that it is recommended that the actual boiling temperature—corrected for elevation above sea level—be determined. This temperature, minus 5 to 10°, should be used consistently to get the best uniform results. Poor penetration is caused by low dyeing-temperatures, and excessive shrinkage will occur at the boil.

When the proper temperature has been determined, say 205° F., this should be the dyeing temperature for every batch—if uniformity is desired.

Raise the temperature to 205° F. slowly—time it, and do it the same for each lot—and run at this temperature for 60 min., add 60% sodium chloride, and run at 200° F. for 30 min. more.

Shut off steam and sample for shade. Run cooling while sampling.

If shade is correct, cool slowly to 140° F., by careful addition of cold water, over a 10-min. period. This is critical—sudden cooling will set wrinkles in dynel.

Give one rinse at 140° F.—no cold water. Soap off excess dye with 2% olate flakes at 140° F., raise to 170° F., run 10 min., drop bath, rinse twice at 170° F.

After last rinse, start antistatic finish at 170° F. with 2% Amide PES. Run at 170° F. for 15 min., add 2% Glyoxal, run 15 min. more.
Cool to 120° F. with cold water over a 5-min. period.
Unload goods and centrifuge for 5 min.
Tumble-dry in air dryer for 15 min. at 120° to 130° F.—don't overheat.

For light shades on dynel the same procedure is used, except:
Run dye bath only 30 min.
No soaping is needed.
Cool to 140° F.—slowly.
Rinse at 140° F.
Finish same as dark shades.

Highly selected acetate-type dyes are used in the above procedures. Some shades, unobtainable with acetate colors, are dyed with acid and milling colors, exhausted onto the fiber with 1 to 2% acetic acid. Other procedures are the same.

Phoenix has found that in the 84-needle hose it is best to dye in paddle-type machines, loose stock (no bags), at a paddle speed of 25 to 28 rpm. This method gives the best wooly ef-

(*Continued on page 190*)

SINGLE-CARRIER KNITTING with 40-tpi. yarn results in a stocking that crawls into folds on the table, as shown at the left. Two-carrier knitting makes a stocking that lies flat, as shown at the right.

What Twist Does

Adds more resilience to nylon yarn.
Makes stockings fit better.
Helps hosiery keep its shape.
Makes nylon hose hug the ankle and knee.

How Twist Affects Nylon Yarn

Twenty, thirty, or forty-denier yarn is made with many filaments (fine threads) and looks like this:

Twist winds and holds the filaments together, adds spring and resilience to hosiery, and makes the yarn look like this:

All 20, 30, and 40-den. nylon yarn is always twisted. Fifteen-denier nylon is the thinnest, most delicate yarn used in hosiery. It consists of a single filament and looks like this:

Twisting 15-den. yarn changes this straight yarn into springy coils with added elasticity and a duller appearance. It looks like this:

In each pair of 15-den. stockings knitted with 40-tpi. yarn, there are 5,245,920 springy coils. These tiny coils add to the resilience of the yarn and give nylon hosiery the tendency to hug the leg that silk hosiery had.

"Leg-Hug" NYLONS Knitted With 40-tpi. Yarn

Full-fashioned stockings knitted of 40-tpi. 15-den. yarn on 60-gauge machines hug the leg as silk stockings did. In knitting—

- **Use two or three carriers and run the yarn over oily felt**
- **Use S and Z twist to make stockings lie flat**
- **Knit 50 extra courses in the length to compensate for tighter, smaller loops**

By H. B. LeFEAUX
Consulting Editor, TEXTILE WORLD; Superintendent, Vanette Hosiery Mills

IF A NUMBER OF WOMEN were asked what outstanding feature the silk stocking had over nylon hose, they more than likely would say that silk hose had the effect of hugging the leg more than nylon does.

Today, the same hugging effect, with many other added features, can be obtained with 60-gauge stockings, knitted with 15-den. nylon that has 40 turns of twist per inch. The twist gives the yarn more elasticity and makes it more snag-resistant.

Some mills making branded hosiery started experimenting with 40-turn 15-den. nylon last December. A good many are now going to this yarn to promote new business because the high-twist nylon makes a stocking that is new and different.

For satisfactory knitting, this yarn has to be run either three carrier or two carrier. In our mill, we are partial to two carrier. If you run the 40-turn yarn single carrier, the stocking, after it is finished, will not lie down flat on a table. The accompanying pictures show two stockings knitted with 40-turn 15-den. yarn. The one on the left was knitted single carrier and has a tendency to crawl. The one on the right, knitted two carrier, lies flat on the table.

For Good Knitting Results—

The three-carrier alternating friction can be used. The 40-turn yarn

(*Continued on page 238*)

What Do You Know About Unevenness?

After you've made tests for unevenness, what do you have? How can you analyze such data? Under what conditions can such results be compared? Does length have more effect on unevenness than fineness? Is there such a thing as standard unevenness, with so many mill variables?

The two articles here are an approach to the answers to some of these questions. The articles are based on material presented at a recent meeting of the Textile Quality Control Assn., a young organization that is making a real contribution to the understanding of problems such as the one of evenness.

Average Percent UNEVENNESS— We Know What the Term Means

▶ This article presents some ideas that may help you to analyze evenness-tester results. Mr. Chandler, with a background in physics, brings us a fresh approach to the origin, significance, correlation, and practical uses of evenness-tester data. His work, done solely with the Pacific evenness tester, should be of interest to those owning this type of tester or other types—and to all mills considering the subject of evenness and its measurement.

By **NORMAN H. CHANDLER,** Thor Mills, Granby, P. Q.

GONE ARE THE DAYS when the "old hand" could judge a yarn or sliver for evenness by twisting it up, looking at it, feeling it, or otherwise pronounce a judgment based on some other means of accentuating the irregularity. The textile industry has entered the era of the textile scientist.

Various evenness testers (of which the Pacific is one) recently introduced to the textile trade are capable of continuously amplifying the variations of yarn or sliver cross-sectional area about an average value and permanently recording the amplified fluctuations on a length of chart paper. Subsequent calculations made on the tester chart yield a numerical value proportional to the actual unevenness of the yarn or sliver under test.

But what does this numerical value mean? Is "average percent unevenness" a useful mill tool, or is it just a lot of statistical hocus-pocus?

We at Thor Mills have found unevenness data extremely helpful—especially since we developed a few simple relationships that tell us what we have, how it fits in, and what it means.

We Can Predict Unevenness

Once we have established the average percent unevenness of a given yarn number, we can determine the unevenness of all other yarn numbers spun from the same type of fibers by using the relationship—

$$\text{Average percent unevenness} = \frac{A}{\sqrt{N_s}}$$

A is a proportionality constant

N_s is the average number of fibers in a cross-section

We determine A for our satisfactory yarn and then compute the unevenness we can expect for other yarn numbers.

We Can Measure Machine Effects

The value of our constant A is a direct measure of the harm done to a yarn or sliver by the machine that processed it. The greater the value of A, the more injurious the operation has been. The injury, of course, may have been caused either by the poor drafting quality of the fibers themselves or by faulty machine components or settings.

How do we get the above relationship? Average percent unevenness is a measure of the irregularity produced in the process plus the irregularity due to the random distribution of fibers in the material. But unevenness due to random distribution is dependent only on the average number of fibers per cross-section. Therefore the constant A measures only processing effects.

We Can Compare Products

From our first relationship we developed two others:

$$\text{Average percent unevenness} = \frac{B}{\sqrt{\text{wt. per unit length}}}$$

$$\text{Average percent unevenness} = \frac{C}{\sqrt{\text{yarn number}}}$$

Table I
Relative Yarn-Unevenness Increase With Spinning Draft

Yarn number	Spinning draft	Average % unevenness	C
1/6s	7.86	26.2	10.70
1/16.5s	10.83	46.3	11.40
1/20s	13.13	53.6	12.00
1/30s	19.2	70.6	12.90

Table II
Another Example of Effect of Spinning Drafts On Average Percent Unevenness

Yarn number	Spinning draft	Average % unevenness	C
1/20s	9.30	51.6	11.55
1/30s	13.95	67.7	12.55

The above two relationships enable us to compare yarns or slivers of different weights—but still of the same material. Both B and C are also proportionality constants that vary from one fiber to another.

In all cases, the lower the value of the proportionality constant, the less unneven is the yarn or sliver.

Theory and Derivation of the Relationships

Every spinner realizes that unevenness is inherent and can never be totally eliminated. Since the fibers in the yarn or sliver were not placed there individually, the conglomeration of fibers may be defined as constituting a random distribution.

With the aid of probability theory it can be shown that the standard deviation of a random distribution is equal to the square root of the arithmetic mean of the distribution. This theorem along with its vigorous proof may be found in most advanced textbooks on probability and statistical theory.

Rewriting this result in the form of an equation we have

$$\sigma = \sqrt{N_a} \qquad (1)$$

where σ = the standard deviation of a random distribution and
N_a = arithmetic mean of the distribution.

Thus the coefficient of variation V of a random distribution is

$$V = \frac{100\,\sigma}{N_a} \qquad (2)$$

$$= \frac{100}{\sqrt{N_a}} \qquad (2a)$$

Consequently the random distribution of fibers constituting a yarn, sliver, or roving is the source of an irregularity whose coefficient of variation is given by (2a), where N_a represents the average number of fibers in the yarn or sliver cross-section.

That equations (1) and (2) hold for a yarn or sliver of any staple length has been proven by J. G. Martindale who has also altered equation (2) to include the added unevenness in a yarn or sliver brought about by a variation in the fiber cross-sectional area. This latter modification—for the purposes of this article—will not be included.

An attempt will now be made to find some sort of correlation between the value of average percent unevenness and the coefficient of variation of a random distribution. For, should a relationship exist between these two values, then statistical methods may be employed as a further aid in the analysis of results.

Let us consider further the definition of average percent unevenness. We have

$$U = \frac{\text{Total average deviation}}{\text{True average thickness}} \qquad (3)$$

where U stands for average percent unevenness.

If the right-hand expression of equation (3) is multiplied top and bottom by the groove width in which the sample was tested, relation (3) becomes

$$U = \frac{\text{Total average deviation in cross-sectional area}}{\text{True average cross-sectional area}} \qquad (4)$$

Or again, where the fibers are all uniform in cross-sectional area

$$U = \frac{\text{Total average deviation in cross-sectional fiber content}}{\text{True average cross-sectional fiber content}} \qquad (5)$$

Comparing equation (2) (the coefficient of variation of a random distribution) with equation (5) we have:

a. σ, the standard deviation is directly proportional to the total average deviation in cross-sectional fiber content of the sample

b. N_a, the arithmetic mean of the random distribution, is equivalent to the true average cross-sectional fiber content of the sample

c. The random distribution of fibers is a source of unevenness in yarns, slivers, and rovings

In view of relationships a., b., and c., we may deduce that

Average percent unevenness =

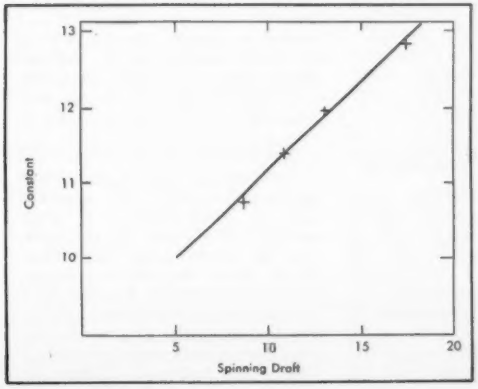
$$U = \frac{A}{\sqrt{N_a}} \qquad (6)$$

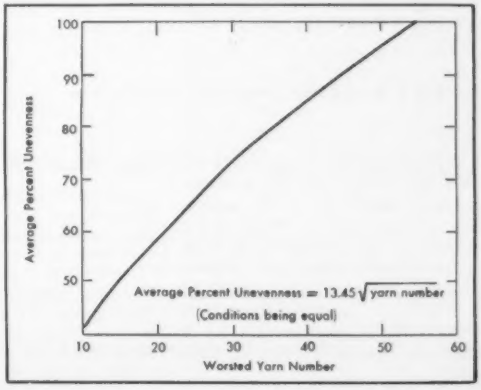
A is a proportionality constant and N_a is the average number of fibers constituting the yarn or sliver cross-section.

From equation (6) we see that as the average number of fibers in the yarn or sliver increases, the average percent unevenness decreases; a result that has been noticed undoubtedly by every evenness-tester operator.

Since the average number of fibers in a sliver or roving cross-section is propor-

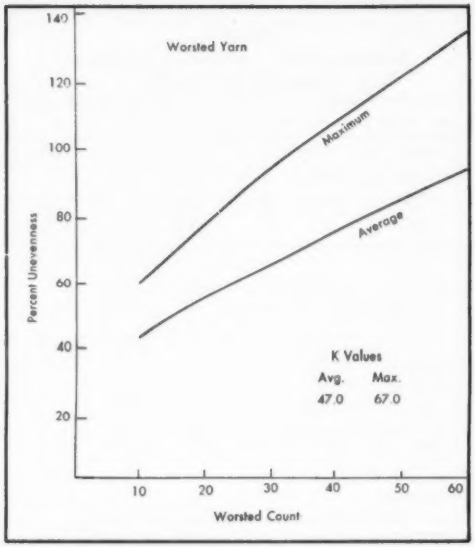
(Continued on page 214)





Selling on Specifications—
A TW COMMENT

If you sell on specification, you've got to manufacture on specification. We believe that the current trend toward increasing use of evenness testers is a real contribution to the science of textile manufacturing. Up to now most of the specification buying of textile products has been by the government or by some industrial purchasers, but we believe that the day is not too far distant when much more purchasing will be based on specifications. That's why any contribution to the understanding of textile measurements is particularly important. This pair of articles on the Pacific tester is just an indication of the work that can be done.



58s-64s WOOL was the basis of this graph. Stock was at 14% regain plus 2% oil. For the 0.009-in. groove, worsted count equals 0.1080 divided by thickness. For the 0.012-in. groove, worsted count equals 0.0936 divided by thickness.

Mills Cooperate To Set Tentative UNEVENNESS STANDARDS

▶ **When Pacific Mills learned of Mr. Chandler's handling of evenness-tester data (see page 96) they investigated his theories and found them to be sound. The next step, in cooperation with the manufacturer of the tester, Anderson Machine Shop, Needham Heights, Mass., was to use the new statistical tools to correlate data from many mills in an effort to set tentative standards. This article summarizes the work to date.**

By RITA F. CASBY, Pacific Mills, Lawrence, Mass.

WE OF PACIFIC MILLS believe that Mr. Chandler's work is an outstanding contribution to the correlation of evenness tests. There are two ways to use his formulas: 1) to bring individual mill results to a common level and thereby set up standards, 2) to analyze evenness-tester charts better. We have prepared a set of graphs to develop the first of these points.

How the Graphs Were Set Up

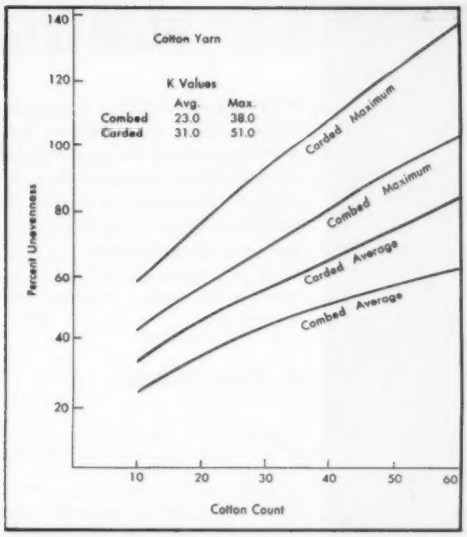
Dozens of mills, machinery manufacturers, and fiber producers sent in their evenness-tester results and we correlated all of the data by using Mr. Chandler's methods. The results of this investigation were divided into three groups: 1) worsted system, 2) cotton system, and 3) card or cut staple/pin drafter system.

The average test length used was 20 yd. Grains per yard were used as the basis for the K-numbers to get away from the different systems of yarn numbering.

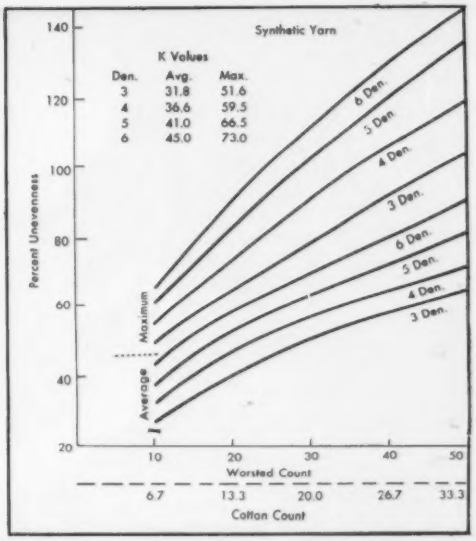
Standards for the worsted group of charts are based on 58s to 64s all wool. You can compare other wools and synthetics processed on the worsted system by allowing for the different staple lengths and fiber diameters.

Cotton standards come from a wide range of cotton and represent an average.

Synthetic-fiber standards are based on carded or cut staple fibers that were pin drafted and made into roving and yarn on either worsted or cotton frames. The charts of pin-drafter sliver are plotted according to staple length rather than fineness because the length of the fiber has more effect on evenness than does fiber diameter. For weights lighter than sliver, however, fiber diameter exerts a greater influence than length, so the charts for



A WIDE RANGE of cotton yarns was used as the basis for these curves. As might be expected, combed yarn shows lower values of unevenness than does carded yarn. The maximum unevenness of combed yarn, however, is higher than the average unevenness of carded yarn.



BOTH WORSTED AND COTTON systems of yarn making are included in the above data. Denier affects unevenness more than does length in weights lighter than sliver. Staple lengths of 3, 4½, and 6 in. were included in the tests. Graphs for synthetic sliver are plotted according to staple length, not denier.

If You'd Like All the Graphs . . .

The three graphs reproduced above are just a sample of the work done along this line. A complete set of the thirteen graphs prepared by Miss Casby can be obtained from TEXTILE WORLD without charge. In addition to the three graphs on yarn, you'll get the following:

WOOL
- Top
- Heavy drawing or 1st Pin Drafter
- Intermediate drawing or 2nd Pin Drafter
- Worsted roving

COTTON
- Card sliver
- Comb sliver
- (data on roving not yet available)

SYNTHETICS
- 1st Pin Drafter
- 2nd Pin Drafter
- 3rd Pin Drafter
- Roving

roving and yarn are plotted according to diameter instead of length.

What the Graphs Show

Two conclusions have been reached as a result of this investigation. First, evenness constants (K-numbers) are inversely proportional to staple length. Second, evenness constants are proportional to the square roots of deniers.

How You Can Use the Graphs

1. To Check Your Operations

When you process a sliver or similar form through a machine, you can check the material fed and delivered and derive substantially the same K-numbers—provided nothing has occurred within the machine to affect uniformity. If you get different K-numbers, you'd better find what is causing the unevenness to be introduced at that process.

To make this check, you should perform regular tests and calculations on the material fed. If doublings are used, the entire feed should be tested together if the combined weight is within the range of the tester; otherwise lengths of each end fed should be tested and averaged. Then K-numbers should be calculated.

When testing the delivery end, be sure to use a test length equal to the feed test length times the draft. Instead of taking readings of highs and lows per yard, readings should be taken at each yard length times the draft. Then K-numbers are again calculated and compared with those of the feed.

(Note: to make the delivery-end calculations easier, run a closed-curve graph. The closed curve represents 20 yd. to the inch. For example, if your draft is five and you tested 20 yd. of the feed, you'd have to test 100 yd. of delivery and take high and low

(Continued on page 218)

$$K = B$$

The K referred to in Miss Casby's work is the same as the constant B in Mr. Chandler's formula (7).

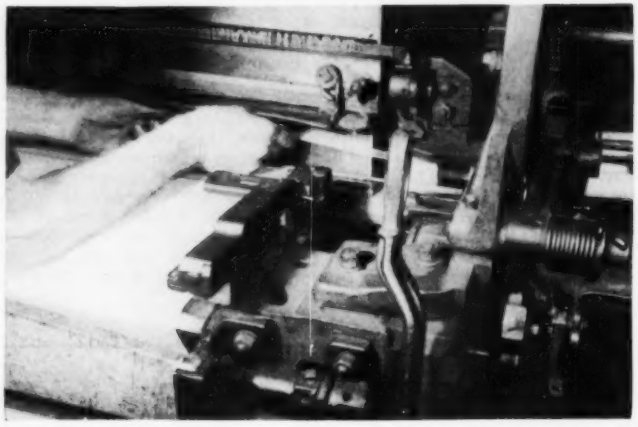
$$K \text{ (or } B) = \text{Average percent unevenness} \times \sqrt{\text{grains per yd.}}$$

How Your

►This superintendent of a filament-rayon weaving plant believes that loomfixers should be given limited responsibilities to prepare them for jobs as supervisors. By having the loomfixers follow a daily schedule, the superintendent always has a reserve of supervisory material in his weave room—and in addition runs a good job.

By CARL GOINGS

THE WARP AND FILLING are protected on filament-rayon yarns if the shuttles are polished on a regular schedule.



FEW ENDS ARE BROKEN in the warps and filling breakage is reduced if all reeds and shuttle boxes are kept in alignment. In addition, the reed and boxes must both be square with the raceplate.

A LOOMFIXER SHOULD OBSERVE these rules to help him run high production and low seconds.

1. Be on the job 10 min. before shift-changing time to discuss the problems of the section with the loomfixer who is turning the job over to him. The loomfixer who is leaving should tell him whether he has any looms that are giving him trouble and explain the nature of the trouble.

2. He should make certain that weavers and battery or magazine hands are on the job. If any worker on his section is out, he should tell his supervisor at once.

3. He should get loom flags down as soon as possible after his shift takes charge of the looms and see that all flagged looms that are making seconds are fixed. After all flags are down, he should check all the looms that are stopped to help his weavers get all looms running and make needed minor adjustments on the looms that are stopped. If a loom is laying off, breaking filling, or slamming off, it should be fixed. Minor loom stops may look small, but they can reduce the day's production. The main thing is to get the looms running! If a section is in good shape, all the looms should be running within 30 min. after shift-changing time.

4. After the looms are all running, the loomfixer and the weavers should not feel that the day's work is complete. The loomfixer should check his job and make adjustments needed to keep him ahead. Only in this way can he raise his section to the standard required for top production.

Some of the things he should schedule for day-by-day routine are:

Monday

Check the shuttles on his share of the looms.

1. Be sure that all shuttles are the same size and weight (C&K looms).

LOOMFIXER Should Run His Section

2. Keep backs of shuttles square.
3. To prevent damage to the warp and filling, polish the shuttles with fine sandpaper until they are smooth.
4. Finish polishing the shuttles with a rag and a mixture of shellac and wood alcohol.
5. Check the shuttle eyes carefully. The tension pads should be smooth; the slightest groove in a pad will damage the filling.
6. Check the guide posts for grooves or burrs.
7. Be sure that the top of the eye is smooth.
8. Tighten the bolts that hold the eye and the quill springs in the shuttle. A loose bolt may cause the reed to be damaged.
9. Check the alignment of the quill springs. If the springs hold the quill out of alignment with the shuttle eye, excess tension will be placed on the filling, and filling breakage will result.
10. Fur the shuttle with the grain of the fur against the yarn. Have the heaviest fur near the shuttle eye. Be careful to keep glue off the edges of the shuttles.

Trim the fur to bevel slightly to the top on the back wall of the shuttle. The fur on the front wall of the shuttle should be beveled from the bottom to the top.

Tuesday

Check the reed and box alignment on his share of the looms.

1. Use a 24-in. and a 12-in. straightedge to align the reed.
2. Align the reed at each end with the lay end or box back.
3. Reeds that will not align should be reported to the supervisor so that the lay ends can be realigned when the warp is out.
4. Be sure that the yielding reed will vibrate.

Wednesday

Check his looms for throwing a bad shuttle. One way to check is to hold his thumb on the box-top plate or shuttle guide and extend it downward until the moving shuttle tips the end of his thumb. A bad shuttle will strike the end of his thumb occasionally as it rides too high.

These things will cause a loom to throw a bad shuttle:

1. Binders too tight or binders with worn leather.
2. A warped or bent shuttle box.
3. A shuttle back that is not square.
4. A too-high or too-low warp shed.
5. Too much picker-stick power or stroke, or a combination of both.
6. The head out of time.
7. The picking motion out of time.
8. The reed and boxes out of alignment or not square with the raceplate.
9. Pickers that are worn excessively or pickers that are not parallel.
10. Spindle leather worn out and giving too much picker-stick stroke.
11. A too-tight or too-loose heel strap.

Thursday

Check his share of the looms for shuttle boxing by holding the lay ends to see if the shuttles are boxing. If a shuttle isn't boxing, check:

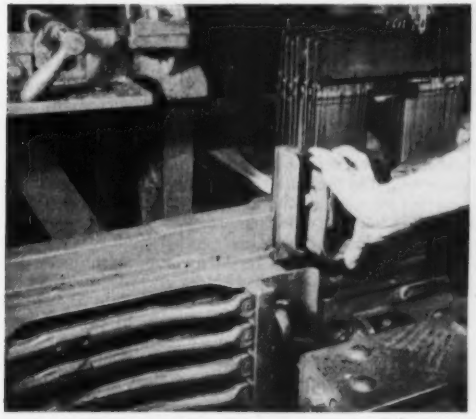
1. The picking motion for a loose or worn picking shoe, picking roll, picking shaft stands, or sweep arm.
2. Worn pickers, picker sticks cracked or worn, and gummed picker rods.
3. The clutch for weak action.
4. Binders that are too tight.
5. Picker sticks without sufficient power.
6. Check straps not properly adjusted.
7. The warp for being too tight.

Friday

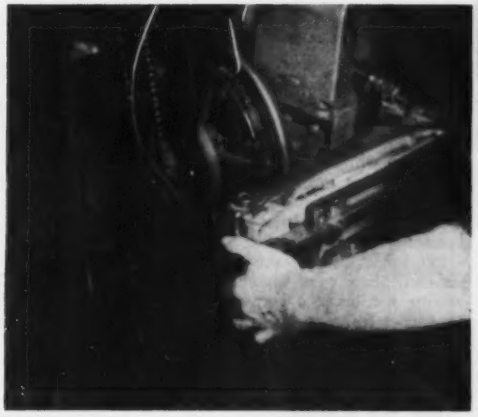
Check the shedding motion on his share of the looms.

1. Level and reset all the harnesses.
2. Divide the warp shed evenly.
3. Inspect the jack eyes and leader wires for wear.
4. Loosen the harness ribs that are too tight.
5. Check the whiproll to see if it is the right height.
6. Set the stop-motion stand to make the drop wires dance.
7. Set the tension on the warp.

By following a daily schedule, the loomfixer will keep his looms in good condition and will learn the loom-checking methods that he will use when he becomes a supervisor.



THE LOOMFIXER SHOULD CHECK his section each week to determine which looms are throwing "bad" shuttles. Corrections are made as the looms are checked.



CLOSE SHUTTLE BOXING will result in woven cloth that is free from filling defects. Each loom is checked weekly to insure positive-shuttle boxing.

Carl Brandt Reviews the ABC's of SYNTHETIC FIBERS

▶ James A. Chapman, Jr., superintendent, Riverdale Mills, Enoree, S. C., chairman of the South Carolina Div. of STA, said: "Synthetics are Greek to me, and I'd like to hear a little about them before we go into specific problems." Carl Brandt, Whitin Machine Works, responded with this discussion of the ABC's of synthetic fibers.

SYNTHETICS MIGHT BE divided or classified first by composition. In other words, there is a class of fibers that start with cellulose. That is the early type and in that group you find viscose, acetate, and cuprammonium. They are the three main fibers that start with cellulose as a base.

Next come the true synthetics, which are fibers built up right from the ground, from an inorganic material combined with an organic material. In that class are Orlon, nylon, Dacron, dynel, and other fibers. They have entirely different properties, and they handle quite differently in spinning and in the final yarn. In them you have a material quite different from that early type of synthetic that had a cellulose base.

First, We Wanted Cotton-Like Fiber

The classification can be carried further. In synthetics you had at first fiber of 1½-in. staple and 1½ den. I imagine the synthetic fiber was cut in that staple and made in that denier in an effort to approach the condition you had in the cotton fiber. To get the stuff on the market, the producer had to put it in such form that you cotton-mill men could handle it on the machinery in your plants.

As time went on, these pioneers wanted a little wider field in the construction of fabrics, and they put on pressure to get longer lengths. Then, after more time, it was found that coarser fibers were very desirable in giving the fabric a better hand and a crisper feeling. So, over a period of 6 or 8 yr., the trend was toward a fiber up to 3 in. long and running in denier to 3, 3½, and even to 4½.

Then We Wanted Worsted-Like Fiber

As time went on, the tendency was to go to even longer fibers. Some of the spinners now want fibers at least 4 in. long and in coarser deniers, some even up to 11 den. By using longer and coarser fibers (up to 4½ den.), the manufacturers find it possible to produce fabrics much like worsted. If you want more crispness and more resistance to creasing and wrinkling, you go to even coarser deniers.

The reasoning back of this whole thing was to produce fibers that had qualities in the worsted field. In other words, a good deal of summer suiting is now made of synthetics; and in order to get appearance and wearability in these fabrics it was necessary to go to these longer fiber lengths.

That is the trend at the moment.

How To Handle Synthetics

It might now be well to take a little time to go over the matter of handling synthetic fibers in the mill. You can handle the shorter lengths on your cotton machinery; in the case of the longer lengths, you need to modify that machinery. You need longer roll stands so you can spread your rolls, and you need larger rolls of such dimensions that you can increase the weight on the rolls. These newer systems put more control in the unit of the machine itself, which is another reason for applying more weight to the top roll.

So a separate type of machine has been developed to handle this longer, coarser fiber. Since the fiber approaches wool in many of its characteristics, we find that the worsted type of machinery that we have been building over a period of years fits in very nicely. It is true that we have made modifications in its setup and operation, but we have taken a number of features from the old-type worsted machinery. For instance, we have the larger roll.

As a result, we have today what our company calls an American system. On that system we can handle these newer types of fibers that run into the long lengths and coarse deniers suitable for worsted-type fabrics.

It is true that as you get into these longer lengths some of your problems become quite difficult. One of them is preparation of the lap. At present it is difficult to make a good lap on a picker (in fact, it is difficult to make a lap on a picker at all) with a fiber that has a staple length of over 3½ in.

In the place of drawing, on these longer lengths we substitute a process similar to the old process used in worsted where you have pin control of the material as it is carried forward.

When it comes to roving you can overcome the difficulty there by using longer roll stands and larger rolls. These rolls prevent lapping and licking of the fiber and make the ordinary operation of the machine much easier. At the same time, you can add the pressure that is necessary to do proper drafting.

The same thing applies to spinning. Our machines are heavier in construction, and we use a 2-in. bottom roll in spinning as we do in roving. Then we apply the improved method of draft control that we get by the use of aprons.

Problems Are Not All Solved

That covers roughly the trend at the moment and some of the problems that we have overcome. There are still other problems; and maybe, as time goes on, they will be solved.

At present, fabrics made of synthetics offer stiff competition to these higher-quality worsted fabrics with which we are all familiar. What has led to the adoption of this new type of machinery is the fact that machinery was developed to fit the product that you plan to make and the stock you are running.

I think we are still in the molding stage. I think there will be a lot of progress made with the newer types of fibers, particularly those of the Dacron and Orlon types. They fit in

(*Continued on page 212*)

Mill Men Explore Problems In Carding and Spinning SYNTHETICS

▶ Mill men at the South Carolina Div. of STA Spring meeting discussed mill problems in—

Making synthetic-fiber laps
Carding tinted laps
Best twist for spun rayon
How to run long staple
Rewinding spun-rayon filling
Two-process picking

1. Synthetic-Fiber Laps

Can you make a good lap out of 100% Acrilan, Dacron, or Orlon?

a. Most mills run Orlon and Dacron laps shorter than their usual cotton laps. These fibers have peculiar characteristics. If you compress them, they spring right back to a bulky state. For that reason, you can't make a full lap. Most mills find it impossible to run more than about a third of their usual lap length. (If you run 40 to 42-yd. cotton laps, about 12 or 15 yd. long.)

You can make a lap that is even and that unwinds all right on the card.

Picker-lap variation, where a Bramwell feed is used, runs 15 to 18% between the high and low lap-meter reading per yard. Card-sliver variation may average in the neighborhood of 12%.

2. Carding Tinted Laps

Some mills have had trouble with laps tinted for identification. The tint sticks to everything and loads up the card. What can you do about it?

a. The trouble comes from trying to card the lap while it still has spots of moist tint. If you tint the lap and set it aside until the tint is thoroughly dry, you're not likely to have that trouble.

b. You have to be careful about tints on nylon and Dacron. There is a special group of tints that have to be used. The fiber producers ask you not to use a tint, but that's impossible unless your whole mill is on one fiber.

c. One thing you have to watch in tinting is that you may have some stock in your laps that will be dyed by the tinting colors. When some of the mills started blending some wool in their regular rayon laps, they used the same tint they'd been using on all-rayon laps. The tint looked good; but when they tried to wash it out of the goods, they found that the wool had been dyed.

3. Twist for Spun Rayon

What twist multiplier will give the highest break factor on short-staple spun-rayon yarns?

a. Maximum strength for 2-in. staple would be reached with a twist multiplier of 3.65. You might raise that a little and add a little more twist; but when you do, your elongation suffers and you really don't gain anything. On 100% viscose, you can go a little further.

b. The best way for anybody to answer that question is to take his own blend, put it on a spinning frame, experiment with twist, and arrive at his own best twist multiplier. He can start with what the manufacturer says is the right multiplier and experiment from that.

c. Normally, you run a much lower twist on synthetics than you do on cotton. When you change over from cotton, you have to slow down your spindles because you are running with a lower twist multiplier.

d. On a blend of acetate and viscose, we get our maximum break with a twist multiplier of 3.25.

4. Long-Staple Synthetics

Should long-stable synthetics be processed on the cotton system or worsted system: How do costs compare?

a. It depends on how long the staple is. We run up to 4½-in. staple on the cotton system, and we get along fine with it. It depends on drafting at the slubbers and spinning frames.

If you go to fine yarns—say, 60s, 80s, or 100s—you may want to comb the stock to give you a little better-running work at the spinning frame and to clean up the yarn a little.

But you can still do a good job on the cotton system by adding another process of roving.

b. It costs about 50% more to make yarn on the worsted system than on the cotton system because the worsted system has so many more processes. For example, if it cost you 15¢ per lb. to make yarn on the cotton system, it would cost you about 25¢ per lb. on the worsted system.

5. Spun-Rayon Filling

Do you requill all-rayon filling?

a. Yes. It has been my experience that I always have more trouble with filling than with warp. A lot of us, when we started off on rayon fabrics, tried to use the old method and put a lot of bunch on the quill. It took a long time to convince the industry that it was not the right thing to do, although it is more economical.

We come out better when we requill all of our spun-rayon filling. The requilling eliminates a tremendous number of defects in weaving.

6. Two-Process Picking—"Sleep Insurance"

I have a word of caution for those going into rayons. The thing to be very cautious about is blending and picking. Be sure that you do not get away from established practices that have proved satisfactory.

You don't have to worry too much about a straight acetate and viscose mix; but when you start blending acetate or viscose with Orlon or other types of synthetics, you're in for trouble.

When you look at picking and the cost of it and then at the cost of bands coming back on dyed goods you shipped out as firsts, you might call two-process picking "sleep insurance."

The most critical factor in going into rayon is to make certain that you have

(Continued on page 210)

Here's the Way To SLASH SYNTHETICS

▶ **At the STA meeting at Spartanburg on April 12, Mr. Anderson said: "Heavily sized warps cause more set marks than a pliable, lightly sized warp."**

By G. M. ANDERSON, Penick & Ford, Ltd.

There Are Two Classes Of Hard Size

Hard size formed in warps of synthetic fibers are classed according to the two general sources:

1. ROLL MARKS occur in a warp after the slasher has been stopped to lease the warp or to doff. The hard size appears at the point of the warp that rests on the squeeze rolls while the slasher is stopped.

The degree of the hard-size roll mark varies with:

a. The length of time that the slasher is stopped
b. The congealing properties of the sizing formula
c. The concentration and viscosity of the starch-base product

The amount of hard size in synthetic-fiber warps may be reduced if the slasher operators are trained to eliminate unnecessary stoppages. Improvements can be made in the methods of inserting lease strings, cutting laps, and doffing beams.

Slasher operators should learn to use the "Creep" speed control on a slasher. If the yarns are moved a short distance several times during a slasher stop, the degree of hard size will be reduced.

Too little size in the size box often contributes to the formation of roll marks. A size level half way up the copper or stainless-steel roll has proved to help in the elimination of roll marks.

A size that is too viscous increases the number and the degree of hard-size roll marks. The solution is to use a starch-base product of thinner body.

Sizings that contain starch-base products that congeal easily increase the extent of roll marks. New starch developments, such as the hydroxyalkyl starch ether gums, virtually eliminate the roll marks that are caused by rapid size congealing.

2. INDIVIDUAL HARD-SIZE SPOTS other than roll marks are caused by:

a. Insufficient mixing of the sizing materials in the cooking kettle prior to turning on the steam
b. Poor housekeeping in the cooking and storage kettles and size boxes
c. Too low a temperature in the storage kettles and size boxes
d. Excess variation in the sizing level
e. Overboiling of the size in the size box as a result of faulty size-box coils
f. Too-high steam pressure at the size-box coils
g. Failure to keep the size level above the steam coils in the storage kettle
h. The secondary effect of foaming size
i. Unheated portions of size in the size box
j. The use of a starch base that will not congeal

What Causes Soft Warps?

Soft warps are caused by both the physical properties of the sizing mixture and the mechanical processing. Soft warps are generally warps that have insufficient weaving protection at the loom.

When warps are soft and the added weights are low, the starch-base concentration in the size box should be increased. If the viscosity of the size in the size box is already too heavy, the starch base must be changed to a material of thinner body that can be applied to the yarn to retain a workable viscosity.

The addition of gums to the sizing compound for the purpose of softening should be limited from 3 to 5%. Gums that are added to certain soap-base compounds often cause excess foaming of the compound. Calcium chloride and stearic acid are efficient defoaming agents.

Frequently, high-count weaves that require a maximum amount of weaving protection will be soft even though the over-all added weight of the sizing compound is adequate for proper weaving conditions. These warps may fail to absorb sufficient size because the ends are crowded in the size box.

This condition can be corrected if a double size box is used. The warp is split in half, and each half of the warp is sized in a separate size box.

Periodic soft warps occur from improper roll coverings that become hard pressed, or from roll coverings that accumulate loose fibers.

For maximum efficiency in slashing, untreated 100% high-grade wool blankets should be used as roll coverings.

Occasional soft spots in lengths of 10 to 30 yd. are formed at the startup of the warp and are the result of slow gear operation while lease strings are being placed. Size pickup is approximately 1 to 2% less at slow speeds than at regular slashing speeds.

Periodic soft warps are caused by holding the size for prolonged periods in the storage kettle. Stale sizing shows a loss of viscosity and a subsequent reduction in pickup on the yarn.

A frequent cause of soft warps is the malfunctioning of the humidity system in the weave room. A warp that is sized to be woven at 65 to 75% r.h. will be soft if the weave room r.h. is 82 to 85%.

Wrong Sizing Causes Set Marks

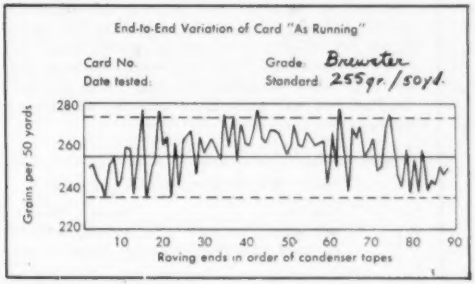
Heavily sized warps normally cause more severe set marks than pliable, lightly sized warps for the same period of loom stoppage. Weave-room humidities in the range of 65% for viscose warps and 70% for viscose-acetate blends appear to be best for allowing minimum sizing on a warp.

Overdrying or underdrying of warps is a contributing factor to set marks. If spun-rayon viscose and acetate warps are slashed at too high a moisture content, the yarns are stretched beyond their normal recovery point. As a result, the yarns cannot recover from elongation at the loom when the harnesses are raised at loom stops. Set marks then appear in the cloth.

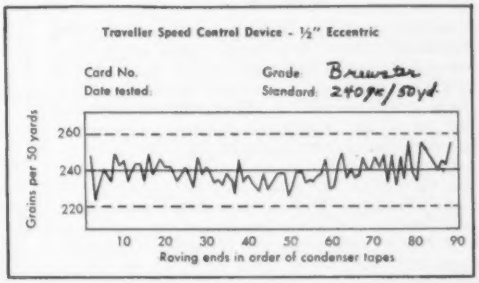
Overdrying of warps is as bad as underdrying if set marks are to be eliminated. Overdried warps will pick up humidity in weaving, and set marks

(Continued on page 208)

Here's how Bigelow-Sanford Carpet Co. analyzed uniformity of woolen card roving and came up with a new device that improved roving uniformity . . .



FROM THIS . . .



. . . TO THIS

Variable-Speed Intermediate Feed Improves CARD ROVING

By A. G. KLOCK and C. W. CARTER
Quality-Control Superintendent Quality-Control Engineer
Bigelow-Sanford Carpet Co.

THE SCIENTIFIC PRINCIPLES of quality control applied to woolen carding have resulted in an improvement in product quality of nearly 100% at Bigelow-Sanford Carpet Co., Thompsonville, Conn. In the application of these principles, a new principle of carding and the design of an inexpensive attachment for this machine have also been achieved. This attachment makes possible the manufacture of textile yarns with uniformity previously unattainable. The device is readily adaptable to woolen cards and is being made available under license by Bigelow to both Davis & Furber Machine Co., North Andover, Mass., and Whitin Machine Works, Whitinsville, Mass.

In considering the quality aspects of any process, one looks primarily for uniformity. The quality characteristic of greatest importance in the carding process is the density, or weight per unit length. Since the weight characteristic of the yarn is determined by the card and since excessive variation in weight can result in fabrics of unsatisfactory quality, it is imperative that this variation be kept to an absolute minimum.

By "absolute minimum" is meant variation due only to pure chance. For well over 100 years, it has been recognized and accepted that the weight of woolen yarns varies widely. However, the extent to which chance causes affect variation has never been accurately determined, and considerable study must be devoted to answering the question, "How much variation is inherent in the process and how much variation is due to causes that can be corrected and controlled?" Such a study has been conducted on the carding process at the Thompsonville (Conn.) Plant of Bigelow-Sanford Carpet Co., largest carpet-manufacturing plant in the U. S.

In conducting a study of this sort, perhaps the best approach is to define how the process is currently running. This is accomplished simply by allowing the machine to run without adjustment, and measuring enough samples of its product so that an analysis may be made.

Here's Bigelow's Thinking . . .

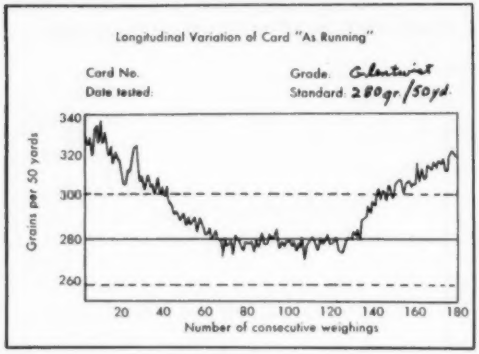


CHART A

1 The accepted means of taking measurements of roving in the textile industry is to weigh a given length of all ends on a jackspool and consider this as the "unit of product." This procedure was carried out for an entire spool from a card selected by the production supervisor as being one of the best-quality performers. Some 450 consecutive weighings were made, of which a typical section is shown in chart A.

It will be noticed that many tests fall outside of the specification tolerance. Further, these tests seem to fall in a cyclical pattern, and it was found that this pattern repeated itself somewhat irregularly throughout the spool. Translating the length of the cycle into units of time, it was found that the high points came every 10 or 12 min., and this was the clue to the cause for this excessive variation.

The only operation of the carding process that occurred with this frequency was the manual loading of wool into the feed box. It was easy to see that the effect of packing the feed box too full would mean roving very much heavier than standard, considering that the converse is true, i.e., a nearly empty feed box will result in very light roving.

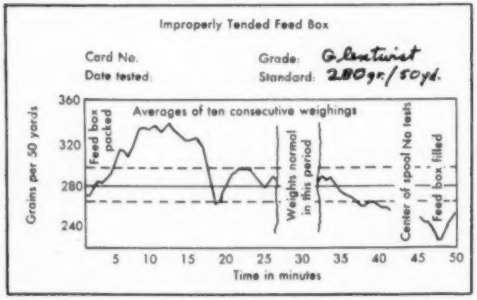


CHART B

2 If this were true, the same effect could be obtained by purposely packing a feed box and allowing it to run until nearly empty. The graphic result of just such a procedure is shown in Chart B.

This chart shows averages of ten consecutive weighings instead of individuals, as shown in Chart A, and is plotted on a time basis. It will be noticed that within 3 min. of filling the feed box the weights were in excess of the upper specification tolerance and that these weights amounted to as much as 21% above the standard. These heavy weights continued for approximately 12 min., during which time nearly 600 yd. of roving were produced.

It should be noted in relation to the rapid dip and rise of the weights at about 15 min. that this was due to a drive belt having slipped off the feed box and consequently the weighpan has missed one drop. For the next 20 min. or so, the weights were within specifications. After 40 min., however, the feed box would become sufficiently low to produce sub-standard roving. After about 47 min., the feed box was again filled, and the weights started to recover.

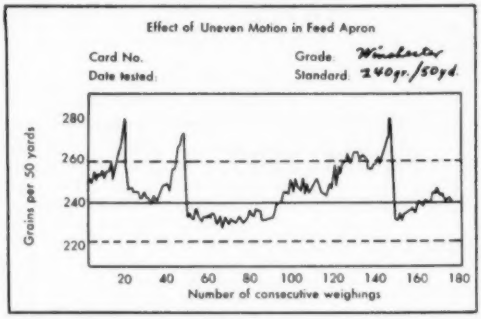


CHART C

3 Since it is desirable to produce roving within specifications and since this analysis showed that a great deal of variation stemmed from improper feeding, a scheduled controlled feeding wherein the box feeder deposits a known weight of wool every 10 min. was adopted. If this scheduled feeding had eliminated all excessive variation, such a test on another card should show all values to be well in control. Chart C shows just such a test.

The peculiarity of this test is that irregular "peaks" appeared. These peaks manifested a sudden increase in the weight of the roving of as much as 50 gr. within 7 or 8 yd. The irregularity of these peaks indicated to the carding foreman that they might be caused by uneven motion in the feed apron, and Chart D shows a test run on the same card after the motion of the feeding had been made smooth.

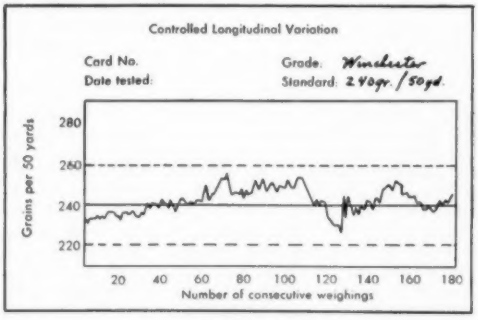


CHART D

4 Whereas it might be open to question whether Chart D reports purely random variation it, nevertheless, indicates that the product is well within specified limits, which are based upon product requirements.

Chart D is entitled "Controlled Longitudinal Variation" because these weightings are measures of the variation along

the length of the card. However, this measure tells us nothing of the variation across the card, i. e., among individual ends, because this system of weighing all ends has the effect of averaging out differences in weight.

Since there existed no standard method of testing the individual ends, it was necessary to devise a special technique. This technique was developed so that an accurate gauge of the 88 ends (four spools of 22 ends each) could be obtained. Chart E shows this end-to-end variation of the card "as running."

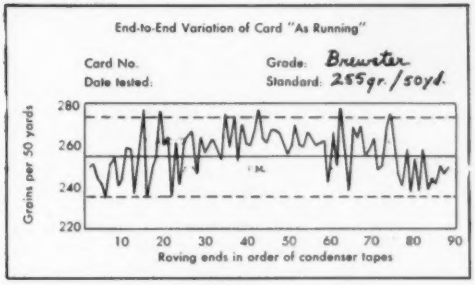


CHART E

5 It also reveals nine out of 88 ends as being outside of the specifications. The appearance indicated excessive variation, and when shown to the foreman, this variation was interpreted as the result of loose tapes in the front section of the card. However, there seemed to be a general trend across the card of increasing weight toward the center. A subsequent test, shown in Chart F, after the tapes had been tightened, brought this characteristic curve into much sharper focus.

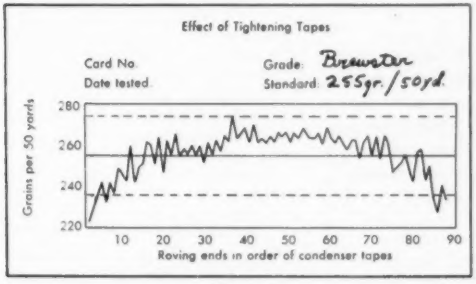


CHART F

6 The tape-to-tape variation has been noticeably decreased, but there still are five ends out of the specification tolerances. Many subsequent tests of this sort were run, and this characteristic curve repeated itself consistently despite the fact that all possible adjustments were made on the card.

Thus, this curve indicated the presence of a heretofore unrecognized cause of excessive variation, and a thorough engineering study was made to determine this cause.

The results of this study indicated that the operation of the intermediate feed was causing a certain stretching of the drawing as it was deposited at the sides of the feed table. Therefore, it seemed logical to overcome this stretching by driving the traveller at a slower speed as it approached the sides and at an accelerated speed as it moved past the middle. This variation in speed would deposit more wool on the sides and less in the middle. The variable-speed mechanism for carding apparatus (otherwise known as the Traveller-Speed-Control Device, patents pending,) has been developed to serve this function. This device works on an eccentric-gear principle, and is controllable through a wide range, giving it flexibility to handle all machine conditions and types of stock.

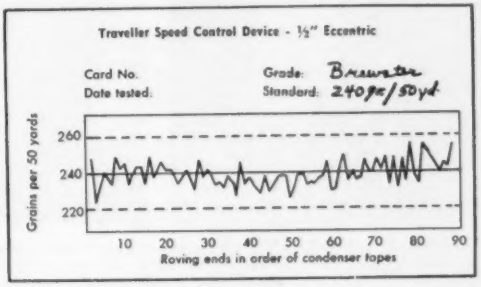


CHART G

7 Chart G shows the results of setting the devices at ½-in. eccentric, and it will be seen that the characteristic curve shown in Chart F has been effectively straightened.

None of the ends are outside of the specification tolerances and the characteristic is relatively flat.

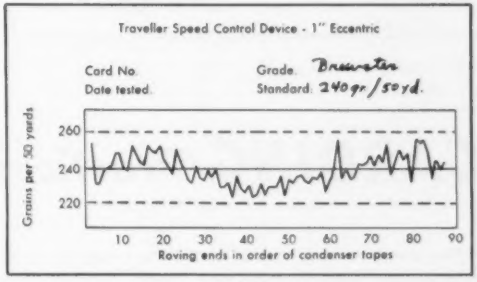


CHART H

8 As substantiation that this device has the desired effect upon the weights across the card, Chart H shows the characteristics with the eccentric set at 1 in. There is a noticeable downward bow in the middle.

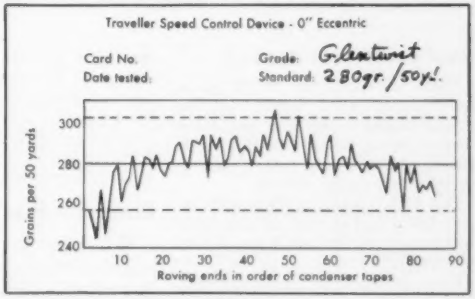


CHART I

9 Finally, Chart I shows the results of setting the eccentric at zero in., or in the concentric position, at which adjustment the characteristic duplicates that of the card before the installation of this control.

The use of this device has resulted in a reduction in roving variation of approximately 50%. It would be unnecessary to describe in detail the advantages of this increased uniformity both from a product and a cost point of view.

20 Examples of Use of Cotton-Fiber Fineness

Fineness (micrograms per in.)	Yarn No.	Nep count (per 100 sq. in. unless shown otherwise)	Staple (in.)	Grade	Break factor	Carding rate (lb. per hr.)
3.3+	7 to 30	30	—	SLMB, LM	1,710 to 1,995	—
3.5+	2 to 8	—	—	—	1,500	—
3.8 to 4.4	27	55	1	SLMB, SLM	—	10
3.8+	3.5 to 24	10.8	—	M	—	—
3.8+	3.5 to 24	15.8	—	SLM	—	—
4.0	110	7 to 15	1 13/32	—	—	—
80% 4.1+ 20% 3.7 to 4.0	35	35	1 1/8	M	—	5
4.0	7	105	1	LM, MG	—	8
4.2	40 to 103	—	1	M, SLMB	2,160	—
4.3	5.5 to 14	—	—	—	1,950 to 2,050	—
4.5	5 to 28	22	1	M	1,738 to 2,246	8.5
4.5	5 to 28	49	15/16	M	1,738 to 2,246	13.5
4.5—	5 to 28	23	—	SLM	1,738 to 2,246	8.5
4.5	31	63	—	SLM	1,875	—
4.5	40	63	—	SLM	1,650	—
4.5	41	63	—	SLM	1,600	—
4.5	16 to 30	35 per gr.	—	SLM	1,724 to 2,002	—
4.5 to 5.3	7 to 30	26	—	M, SLMB	1,710 to 1,995	—
4.0 to 5.0	15 to 28	4.5 to 5.5 per gr.	1 1/32	SM	2,150 to 2,550	—
4.0 to 4.4	4.2 to 20	—	1	SLM	2,000	—

CARDING Practices in Georgia Mills

▶ The spring meeting of the Textile Operating Executives of Georgia was held in the Harrison Hightower Textile Building, Georgia Institute of Technology, Atlanta, Ga. Prior to the meeting, 30 Georgia mills that operate over 1½-million spindles sent in written answers to questions on carding and spinning and at the meeting discussed these same questions. This report covers the first half of the session, which dealt with carding. The comments on spinning will appear in the August issue of TW.

What About 1951 Cotton?

There doesn't seem to be much agreement on 1951 cotton, but the general feeling is that fiber properties themselves are better but that trash and oil in the cotton detract quite a bit from the "plus" factors.

One mill reported trouble with tar spots but wasn't certain whether their trouble came in the bale or was caused in the mill.

Fiber strength and yarn strength are both better this year. One mill reported a 10.5% increase in the break factor.

The biggest complaint against 1951 cotton is "too much trash and dirt." Mechanical picking gets most of the blame from the mills. One mill has solved the problem by blending 50-50 with hand-picked cotton.

Excessive oil is bothering quite a few mills. For instance, one mill cut off spray oil altogether for the first four months of the new cotton, but the regular 0.2% is being put on now. The processing symptoms of excessive oil are roll lapping in drawing, slubbing, and spinning.

Experience With New Openers

Mill A gave the story of its use of a pre-opener in the accompanying table labeled "Before and After Pre-Openers."

At Mill C, the regular flow was:

Blending feeder
1st Superior
2nd Superior
Re-baled
Dyed
Blending feeder
1st Superior
2-section picker

The new setup is:

Blending feeder
1st Superior
2nd Superior
Beater section
Jet-type cleaner
Re-baled
Dyed
Blending feeder
2-section picker

Results at Mill C, on 1-in., LM cotton with a fineness of 3.8:

	Jet process	Regular process
Pre-opening waste		
1st Superior	0.95(%)	0.99(%)
2nd Superior	0.95	1.04
Beater section	0.44	—
Jet cleaner	0.81	—
Total	3.15	2.03
Opening waste	—	0.30
Picking waste	1.12	1.12
Card waste	6.00	6.31
Total (through carding)	10.27	9.77
Neps per 100 sq. in.	194	189
Cleaning efficiency	84.95%	75.31%

Production at 1,200 lb. per hr. caused too many chokes in the jet cleaner, but Mill C is moving the cleaner to a line with a lower rate of production. The mill is well pleased with the new machine.

Mill *L* installed two jet-type cleaners, one in each opening line. The original machinery layout was blending feeders, feed table, gyrator elevator, mixing feeder, Aldrich No. 1 opener, vertical opener, and Superior cleaner. The jet-type cleaner was installed just ahead of the vertical opener. The mill doesn't have any figures yet but thinks that more waste is being removed with the jet-type cleaner.

Two gin-saw-type openers are in use at Mill *O*. This mill has 20 blending feeders, feed tables, No. 11 condensers, No. 12 openers, No. 11 condensers, No. 12 openers, and then another No. 11 condenser. The new opener was installed right after the feed tables. Tests on LM and SLM show a 1% reduction in waste (from 6.85 to 5.85%)—but there's 25% less lint in the waste. Nep count is about the same, and yarn grade is approximately half a grade higher. Breaking strength is up 5%.

Several new openers are being used at Mill *P*. Their opening line for American cotton is:

3 Saco-Lowell feeders
3 Superior pre-openers
Hopper feeder
Aldrich beater
Jet-type cleaner
Superior cleaner
Opener and condenser
Centrif-air and 2 cleaning trunks

The recovered waste from this line is about 1½% from drops, leaf, sand, etc. The jet cleaner is ejecting a lot of drops, but the mill thinks that a considerable amount can't be measured because it escapes through the exhaust system to the waste tower.

Neps are down, but slowing the doffer to 5 rpm. is given most of the credit.

How To Test Maturity

Half the mills that answered on this subject use the differential-dye test; the other half uses the sodium-hydroxide method.

In the NaOH method, 100 fibers on a slide, flooded with an 18% solution, are examined at 400x and classified according to wall thickness. A total of 10 such slides are made, which gives 1,000 fibers in all.

New Picker Attachments

Several mills are experimenting with Universal grid bars and report that more waste is removed when the new grids are used. As one superintendent put it, "On the regular picker the waste percentage was 0.088, and with the new grid bars the percentage was 0.139. The waste removed with the new grid bars seemed to contain a lot of good cotton, but on closer examination we found that each small mass of white cotton had a whole or part of a seed in the center—just the kind of waste the manufacturer said would be removed by the new bars."

Test results from two other mills are summarized in the accompanying tables.

Fringe rolls are also being tried out with favorable results. The mills think that the fringe roll helps quality. Test results from three mills are given in the accompanying table.

Two mills reported on the perforated beater bonnet and said that the bonnets give a better lap because they help to handle the air better if the bottom is air tight.

ROBERT J. McCAMY (left), superintendent, Pepperell Mfg. Co., Lindale, and general chairman of the Textile Operating Executives of Georgia, presided over the spring meeting of Georgia Tech. E. A. BENTLEY (right), assistant to the president, Swift Mfg. Co., Columbus, led the carding discussion.

Uniformity of Picker Laps

On total lap weight, most mills are using a ¼-lb. tolerance either way, although some mills use ⅜ lb. and one mill doesn't allow more than ⅛-lb. variation.

The Saco-Lowell lap meter is being used by most mills, but the frequency of use varies considerably—from once

With Universal Grid Bars -- Picker Waste Up, Card Waste Unchanged

	Picker with universal grid bars (%)	Picker with conventional grid bars (%)
Picker waste		
Chokes from picker screens	0.02	0.03
No. 6 filter and bag section	0.13	0.13
Fly from No. 5 filters	0.13	0.11
Motes and fly		
Blending reserve	0.10	0.11
Breaker-beater section	0.76	0.50
Finisher-beater section	0.31	0.18
Fly from sand box	0.16	0.05
Rake distributor fly	0.01	0.02
Sweeps	0.02	0.02
Total	1.64	1.15
Card waste		
Flat strips	2.99	3.00
Doffer and cylinder strips	0.19	0.17
Motes	0.55	0.53
Fly	0.45	0.38
Clearer waste	0.09	0.14
Sweeps	0.09	0.09
Total	4.34	4.30
Total waste	5.98	5.45

UNIVERSAL GRID BARS were used only on the finisher beater section of the improved picker. The breaker section of this picker, and both sections of the regular picker, had conventional grid bars. The finisher section with old grid bars took out 0.13% less waste than did the improved finisher section.

Results of Setting New Grid Bars Two Ways

	Regular picker	Universal grid bars Test No. 1	Test No. 2
Grid-bar position (angle up)			
Breaker section	16 bars 1/2 open	4 open	4 3/4 open
Intermediate section	16 bars 1/2 open	3 open	2 closed
Finisher section	16 bars 1/2 open	2 open	2 closed
Settings to bar			
Bar No. 1	—	1/8 (in.)	1/8 (in.)
Bar No. 2	—	3/16	3/16
Bar No. 3	—	1/4	1/4
Bar No. 4	—	1/4	1/4
Beater to feed roll	1/4 (in.)	1/4	1/4
Picker waste			
Mates			
Breaker	0.66 (%)	1.37 (%)	1.02 (%)
Intermediate	0.34	0.67	0.47
Finisher	0.20	0.29	0.29
Blending reserve	0.16	0.12	0.11
Total	1.36	2.45	1.89
Shirley analysis (visible foreign matter)			
Raw stock	1.98 (%)	1.98 (%)	1.98 (%)
Picker lap	1.50	1.00	1.30
Mates			
Breaker	83.50	44.90	58.75
Intermediate	79.25	55.25	59.65
Finisher	86.70	84.35	80.00
Blending reserve	38.00	46.50	53.10
Theoretical cleaning efficiency			
Mates			
Breaker	27.83 (%)	31.07 (%)	30.27 (%)
Intermediate	13.61	18.70	14.16
Finisher	8.76	12.35	11.72
Blending reserve	3.07	2.82	2.95
Total	53.27	64.94	59.10

THEORETICAL CLEANING EFFICIENCY was figured by multiplying percent waste by percent foreign matter in the stock and dividing by percent foreign matter in the raw stock. Speeds of all beaters and fans, not changed during the tests, were (in rpm.): breaker beater—1,008; breaker fan—1,442; intermediate beater—1,008; intermediate fan—1,390; finisher beater—1,025; finisher fan—1,395.

How the Fringe Roll Is Working Out

	Regular	With fringe roll
Mill C (on raw-stock-dyed cotton)		
Waste (%)		
Picker finisher section	0.36	0.81
Card	5.63	5.42
Lap evenness		
Standard deviation	0.39	0.67
Coefficient of variation	2.70	4.72
Web appearance (per 100 sq. in.)		
Neps	170	150
Trash	65	66
Naps	7	7
Mill I		
Lap meter (%)	96.8	97.4
Sliver meter (%)	11.2	10.4
Neps (per grain)	6.8	7.0
Mill HH*		
Lap variation (%)	1.98	1.67
Waste (%)	0.20	0.13
Neps in card web (per 100 sq. in.)	26	26
Average sliver variation (%)	13.45	13.17
Yarn size-filling	22.2s	22.2s
Break factor	1,834	1,819

* This mill also ran a test without a fringe roll or feed rolls and (compared with the fringe roll) got less variation in the lap, more waste, more neps, more card-sliver variation, and a higher break factor.

a day to once a week, with more mills at the latter frequency. Variation allowed ranges from ½ to ¾ oz. per yd., with the majority at ¾ oz. Statistically speaking, a coefficient of variation of 1.50 is considered by most mills to be good, although 1.30 is one mill's breaking point and another considers 1.0 to 1.2 as good. Mill C set up the following standards for coefficients of variation: good: 0 to 1.50; fair: 1.50 to 2.00; unacceptable: 2.00 and up.

Higher Lickerin Speeds Questioned

Mill O reported:

"We have a number of cards on which we speeded up the lickerin to 795 rpm. We have increased production up to 60%—up to 40% without increasing nep count. At 8.49 lb. per hr. our nep count was 10.5; at 11.31 lb. per hr. our nep count is 10.7. No change was noted in sliver variation. Cylinder speed remained at 168 rpm."

Nine other mills reported that experiments on the higher speeds did not sell them on the idea, either because of the cost, excessive fly, more waste, poorer yarn, or some other reason.

Nylon Trumpets Increase Poundage

On cards, nylon trumpets are enabling mills to put from 16 to 50% more sliver in a can. No ill effects on variation have been noted in most mills, but one mill abandoned the idea because of hard cores in the sliver and other reasons.

More weight can also be put in a drawing-frame can, several mills reported, but fewer mills report favorable results in drawing—"because the trumpet wears," one mill said.

One-Shot Lubrication Gets O.K.

One-shot lubrication systems on pickers and roving frames got a good report from most mills. The biggest trouble is maintaining the systems to prevent a bearing from going dry, but the advantages far outweigh this maintenance feature in most cases.

Good initial installation was stressed as important. Attention should also be given to the joints to prevent leakage. The newer types of one-shot systems are generally recognized as better than the ones that came out several years ago.

Picker Settings for Rayon

Question: What picker changes did you make when you changed from ⅞-in. cotton to 1⅝-in. viscose?

Mill D: We now fill our hoppers half full and run the lifter aprons half as fast. The hopper setting is closed

all the way, and the friction pedal is let off to eliminate pressure on the lap pins. Lap pins are covered with a paper tube before the lap is started.

Mill DD: On our two-beater picker we changed the back beater from a three-blade to a Kirschner. We already had a Kirschner on the front. Beater speed was reduced to 850 rpm., and the feed-roll setting was changed from ¼ in. to ⅜ in. We prefer to substitute a metal plate for the grid bars, but we find this change is not absolutely necessary.

Mill E: We slowed down the beaters (from 1,170 to 920 rpm. on the front; the others were slowed in proportion.) Where a beater was set at ⅛ in., we added another ⅛ in.

Mill M: Rayon should be opened for 24 hr. to allow ageing and blooming. We added another hopper to the picker and had two in tandem. The drive-shaft pulley on the blending reserve was changed from 8 in. to 14 in., and the blending-reserve back was opened to 13¼ in. from 12¼ in. The setting of the front beater to the pedals was opened from ⅜ in. to ½ in. The back blade beater and the front Kirschner beater were replaced with bullet-nose beaters. Beater speeds were not changed. Speeds are: back—784 rpm., front—1,030 rpm.

Mill O: We set our Kirschner beater at ⅜ in. and reduced the speed to 800 rpm.

Mill V: Lifter-apron speed and beater speeds were reduced. They are: back and middle—900 rpm., front—950 rpm. Fan speeds are now: back and middle—1,190 rpm., front—1,300 rpm. We produce a 16-oz., 42-yd. lap every 8 min.

Mill C: Beater speeds were reduced as follows: breaker—from 1,050 to 900 rpm.; intermediate—from 1,025 to 915 rpm.; finisher—from 1,350 to 925 rpm. The front beater is a blade, and the other two are Kirschners.

Settings of the breaker and intermediate beaters to the feed roll remained at ¼ in. and ⅜ in., but we opened up the finisher setting to ¼ in. from ⅜ in. The top and bottom grid bars on the breaker section were closed (formerly they were half open). On the intermediate section, the grid bars were also closed. The bars on the finisher section remained one-quarter open. We changed our feed-roll-gear combination from 20 and 55 to 15 and 60. We now make 50-yd. laps instead of 57½-yd. laps.

Three-Over-Four Drawing

Mill C and Mill *FF* both said that three-over-four drawing had cut their variation. At Mill C, on carded stock, average variation is now 19% and maximum variation is 25%. For four-roll metallic drawing the figures were 25% and 32%, respectively.

Mill FF is on combed work and reports that variation in breaker drawing is 14.7% and in finisher drawing 9.87%. On four-roll drawing, variation was 22 to 26%.

Mill I has 112 deliveries of three-over-four drawings and reports that variation is now 18%. Ball-bearing metallic drawing averaged 21% variation, but production of metallic drawing is 180 ft. per min. against 100 for the three-over-four drawing.

More Ends Up in Drawing

"Increased doublings help on the breaker, hurt on the finisher."

"Ten-ends-up successful on coarser yarn numbers only."

"Eight-ends-up improve sliver, but you've got to creel one at a time."

Eight- and ten-ends-up are being used successfully on both five-roll and four-roll metallic drawing and on three-over-four drawing.

Single-Apron Roving Frames

Although one mill thought that the loss of four doublings in roving hurt spinning, another organization is running three of the new frames with a draft of 32.76 to make 5.70-hk. roving. The doubled roving is being spun into 110s yarn.

Converted Roving Frames

Four mills reported satisfactory results in changing 9x4½ frames to 10x5. One mill had a 7-in. gauge, and another had 7½-in. gauge. Mill *T* added a ½-in. piece of key steel to the top and bottom of the builder jaws.

A fifth mill changed one frame from 8x4 to 9x4½ a few years ago but abandoned the idea when the frame didn't work out well.

Before and After Pre-openers -- A Waste Comparison

Waste	BEFORE pre-openers were installed	AFTER pre-openers were installed
Opening:		
Fly, F7 feeder	0.27 (%)	0.30 (%)
Fly, No. 34 filter	—	0.01
Motes and fly, pre-opener	—	0.60
Fly, No. 6 filter	0.15	0.11
Dust, No. 7 bag section	0.04	0.05
Chokes, No. 11 condenser	—	0.01
Motes and fly, No. 12 openers	0.55	0.44
Motes and fly, Superior cleaner	0.37	0.33
Motes and fly, Centrif-Air machine	0.20	0.13
Sweeper	0.10	0.09
Total, opener units	1.68	2.07
Picking:		
Chokes, No. 11 condenser	0.04	0.01
Fly, No. 6 filters	0.07	0.05
Fly and dust, No. 7 bag section	3.04	0.11
Fly, No. 5 filters	0.11	0.04
Motes and fly, blending reserves	0.12	0.11
Motes and fly, breaker beater	0.46	0.46
Motes and fly, finisher beater	0.18	0.19
Fly, sand box	0.02	0.03
Chokes, picker screens	0.02	0.02
Sweeps	0.05	0.04
Total, picker units	1.16	1.06
Total, opening and picking	2.79	3.13
Carding:		
Flat strips	2.88	2.60
Cylinder and doffer strips	0.05	0.06
Motes	0.49	0.47
Fly	0.16	0.43
Clearer waste	0.08	0.06
Blow-off and sweeps	0.13	0.25
Total, carding	3.79	3.87
Total, through carding	6.58	7.00
Nep count per 20 gr. (card web)	537	357
Reduction in neps after installation	—	33.5%

GRADES OF COTTON used for the above tests were: 12 bales of SLMB, 1 in., and 12 bales of M, 1 in. Yarn appearance improved one-quarter to one-half number with pre-openers, and the break factor of the yarn went from 1,823 without pre-openers to 1,805 with them.

Alabama TOE—SPINNING Discussion

▶ Here's a digest of the spinning portion of the spring meeting of the Alabama Textile Operating Executives held at Alabama Polytechnic Institute, Auburn, Ala. The discussion on carding will be summarized in the August issue of TW.

Newer Drafting Systems Liked

Improvements in ends down and in breaking strength have been noted by mills using the newer drafting systems. The main disadvantage pointed out was the increased cleaning necessary.

Mill *T*, on 31/32-in. SLMB cotton, is giving 0.80-hk. roving a draft of 23.1 to make 18.5s warp. Ends down are 10% better, and breaking strength is up 10%. The same mill is also spinning 10.5s warp from the same size of roving with a draft of 13.1—an indication that smaller-than-normal drafts can be used with no ill effect on yarn qualities.

The big saving in the high-draft cradle, according to Mill *T*, is the ability to run yarn numbers from 9.5s to 24s from the same hank roving.

Mill *C* uses the Casablancas system and has not noticed any effect on ends down or breaking strength. Their draft range is from 10 to 21, and they're spinning 12.25s and 13.25s from 0.65-hk. roving and 17s from 0.90-hk.

A draft of 24.4 is being used by Mill *L* to make 22s warp yarn out of 0.90-hk. roving. This mill has spun 13.5s to 22s from the same size of roving with high-draft aprons, from LM and M 1-in. cotton. The break factor averages 3.7% higher, and evenness is 9.7% better. (The former set-up was a draft of 18.3 to make 22s warp from 1.20 hk.) The cleaning schedule for the new cradles is every 4 mo., where as the older ones were on a 6-mo. schedule.

Mill *P* reported an increase in breaking strength, better linear variation, and card-room savings because of the larger roving package since they went to high drafts. They are giving 1.50-hk. roving a draft of 23.5 to spin 35s from ⅞-in. M combed stock. Extra roll cleaning is required to maintain their ends-down standard.

Drafts of 20 to 40 have been tried at Mill *M* with 1-in. Middling cotton. Ends down on 30s warp made from 0.75-hk. roving were 75 per M sp. hr.

(*Continued on page 204*)

GUEST SPEAKER AND OFFICERS of the Alabama Textile Operating Executives are: J. W. Patterson, superintendent, Tallassee Mills, Tallassee, Ala., past general chairman and new member of the executive committee; Ben H. Crawford, Southeastern Engineering Co., West Point, Ga., secretary and treasurer; Thomas L. Carroll, assistant to the executive vice president, National Cotton Council of America, guest speaker; and Henry Lanier, general superintendent, Cowikee Mills, Eufaula, Ala., newly elected general chairman.

New Officers of Alabama TOE

General Chairman—Henry Lanier, Superintendent, Cowikee Mills, Eufaula, Ala.

Vice-Chairman—Harold M. Clark, Superintendent, Avondale Mills, Pell City, Ala.

Executive Committee—Louie Alford, Alabama Mills, Aliceville, Ala.; Oliver Smith, Pepperell Mfg. Co., Pepperell, Ala.

How Long Do Rings and Travelers Last?

Yarn No.	Ring size (in.)	Traveler speed (fpm.)	Ring life (3-shift years)	Traveler life (hr.)
2.85	–	6,000	–	24
13.25	2¼	5,150	10	48
13.5	2¾	6,000	5	288
14.0	2⅜	5,400	2	96
14.0	2¼	5,250	5 to 6	144
14.0	2⁵⁄₁₆	5,200	5	120
14.0	1⁹⁄₁₆	3,000	8	240
14.0	2¾	5,500	4	96
16.0	2¼	5,242	8	–
17.0	2½	5,440	10	48
17.0	1½	3,240	15 to 18	288
21.0	2¼	5,000	6	144
35.5	1¾	4,580	15	432
2.65	2¾	3,090	4+	96
4.25		3,687		
6.00		4,803		
7.00		5,270		
8.75	2½	5,170		
10.00		5,350		
12.00		5,500		
13.50		5,520		
15.00		5,500		
13.50	2¼	5,580		
15.00		5,600		
17.00		5,540		
20.00		5,580		

DATA FROM SEVERAL MILLS are summarized in the first part of this table. One mill furnished the last block of figures.

STA Men Give Answers On SPINNING Problems

Northern North Carolina-Virginia STA men answer mill questions on—

- ▶ Synthetic spinning aprons
- ▶ Revolving top clearers
- ▶ Spinner's cleaning tasks
- ▶ Blowing off frames
- ▶ Spinning break drafts
- ▶ The new SG-1 frame
- ▶ Aligning and leveling frames

1. Synthetic Spinning Aprons

On the 20 Whitin Super-Draft spinning frames we have equipped with synthetic aprons, we have five or six aprons a week come off. Can anyone tell us what causes this trouble?

Causes mentioned by other mill men included:

a. Laps of yarn or lint accumulating on a roll under the apron.

b. Aprons being too loose and allowing the pins to drop out while the frame is running.

2. Revolving Top Clearers

We are considering changing our flat top clearers to revolving clearers. From figures we've seen, there seem to be worth-while advantages from using revolving clearers. Some mills report that you save money in spite of the cost of changing over, largely because you can run a different type of roll covering and reduce your buffing and increase roll-covering life. Can someone set us straight on this question?

One mill man reported:

We changed several frames from flat to revolving clearers. Then we noticed that we had a good many more gouts in the yarn spun on the frames that had revolving clearers. We made a comparative study of the yarn and found that the revolving clearers were causing about 25% more gouts. So we took the revolving clearers off and put the flat clearers back on.

3. Who Cleans Spinning Frames?

Here's a question we discuss all the time: Is it better for spinners to do nothing but spin, and clean-off hands clean, or split the cleaning between them, or is some other variation of the job breakdown best?

Comments from other mill men included:

a. Our spinners do nothing but put up ends and creel.

b. We think that a large part of the spinning job runs in cycles. For example, the spinner has to put up a lot more ends just after a frame is doffed and started up. After the bobbin has a good cushion of yarn on it, she doesn't have to put up so many ends and, therefore, has time to do part of the cleaning.

c. We find that at roll-picking time the spinner gets busy picking rolls and neglects her spinning. For that reason we have considered taking most of the cleaning off the spinner. The trouble is that they rush through the cleaning job too.

4. Cleaning Frames With Compressed Air

Many mills clean their spinning frames with compressed air to reduce hand cleaning. Can you tell us whether that's good or bad?

Some of the comments were:

a. On the week end, after the frames are stopped, we blow off the entire frame with compressed air.

b. We have blown off our frames with them standing and while they were running. You can't tell the difference in the yarn.

c. Right now I know of two mills side by side. One of them stops the frames to blow off, and the other blows off with the frames running. The only difference is the spinning overseers' preference. So far as gouts are concerned, there's no difference in the yarns. Both mills spin cotton yarns, from about 40s down.

5. What Is Your Average Break Draft?

Comments from the mill men present included:

a. On the Roth drafting system I believe the break draft is about 1.31.

b. We have some FS-2 fly frames, and we have been running a break draft of about 1.80 on them. We've had some trouble with these frames, and one of the engineers suggested that we go to a break draft of 3.00. I mention this incident to show how uncertain everyone seems to be about break draft. Nobody seems to know what's best.

6. The New Saco-Lowell SG-1 Frame

Does anyone here have the new Saco-Lowell Gwaltney frame? Has anyone seen it?

a. I saw it in the Saco-Lowell laboratory. They were running it awfully slow and had a lot of twist in the yarn.

b. The manager of Saco-Lowell took me to a mill and showed me several frames running. I told him that I didn't see how a spinner could put up an end at the speed it was running. The front roll was running over 2,000 rpm. So he took me out and showed me how to put up an end.

The ends of the top rolls are open. If you grab the spindle with your hand, the high speed at which it is running will cause it to burn your hand. So they have a cam there that you throw to stop the spindle, and you bring the bobbin up and hold it in a vertical position preparatory to dropping in the end.

The way he demonstrated it, it was very easy. Gwaltney told me that he could go out in the plant and in two hours make a spinner out of any girl out there. Putting up the end is almost effortless.

They are really doing a good job. The end breakage is down around four to six, and when you are getting an end

(*Continued on page 222*)

* * * * *

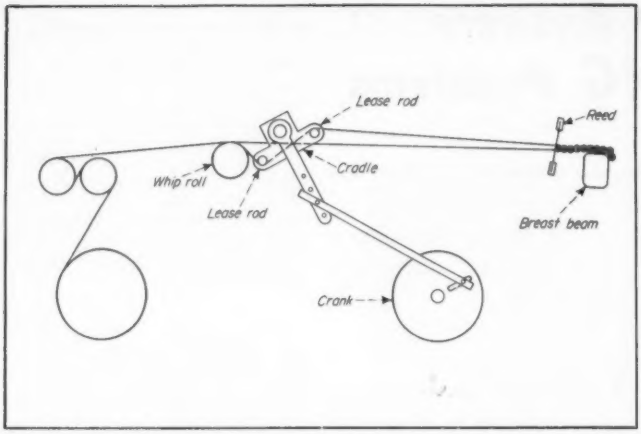
Spring STA Meeting

The Spring meeting of the Northern N. C.-Va. Div. of the Southern Textile Assn. meet in Cooleemee, N. C., in April under the chairmanship of G. R. Ward, superintendent, Highland Cotton Mills, High Point, N. C.

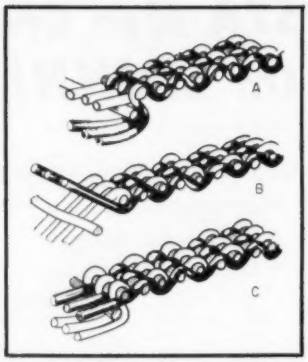
The spinning panel, the discussion of which is reported here in condensed form, was led by C. W. Howell, superintendent, Mill No. 3, Erwin Mills, Inc., Cooleemee.

The weaving panel was led by T. R. Koontz, general overseer of weaving, Erlanger Mills, Inc., Lexington, N. C.

* * * * *



THE GERMAN KREUZWALKE was the first high-pickage attachment used on a loom. During World War II, this attachment was used to make a nearly waterproof fabric without a chemical treatment. The weaving range was extended up to 12% beyond the maximum normal pickage.



A SLACK WARP SHED is shown at *A* and is the principle used for increased pickage in a fabric. The pick of filling is beaten underneath the fell of the cloth by the reed at *A*. The same pick is rolled into the plane of the cloth at *B* and is beaten into the cloth at *C* when another shed is slack to form another pick of filling.

IMPROVE YOUR FABRICS—
With the SRRL Loom Attachment

► **During World War II, the Germans developed a spun-rayon fabric woven so tightly that it was almost waterproof without being coated. SRRL used the German weaving device as a basis and produced an inexpensive attachment to weave—**

- **Lightweight fabrics that are almost waterproof**
- **Fabrics of a uniform quality that have few reed marks**
- **Fabrics that have increased breaking strength**

By M. MAYER, JR., GEORGE J. KYAME, and JOHN J. BROWN
Southern Regional Research Laboratory

Fabric Construction

WARP		FILLING			
Yarn number	Thread count	Yarn number	Thread count without attachment	Thread count with attachment	Percent change
34/2	124	22/2	56	72	28.6
30/2	124	30/2	56	72	28.6
36/2	124	18/2	52	66	26.9
15/5	49	15/3	26	36	38.5
9	82	13/4	29	36	24.1

A 38% MAXIMUM-PICKAGE INCREASE is shown when the attachment is used. The greatest number of picks per inch that can be woven without the attachment are shown in the fourth column. The fifth column shows the pickage may be increased if the same cloth is woven with the attachment.

WITH AN ATTACHMENT designed to make it possible to pack in more picks per inch in a woven cloth, we have increased the pickage as high as 38% above the maximum pickage normally attainable on a loom.

The purpose of the attachment is to produce a fabric that is nearly waterproof without chemical treatment.

Along with the waterproofing results from the attachment, we found that we were able to improve the appearance of conventional fabrics. Usual fabrics, woven with the attachment, have fewer reed marks and are more uniform in appearance.

The principle of the attachment follows the pattern of the well-known method of raising the level of the warp line where additional tension is applied to a part of the warp at the beat-up.

Here's a Layout of the Parts

1. The attachment is driven from the loom camshaft through a train of gears that drive an auxiliary shaft.

2. The auxiliary shaft is mounted in two bearings that are fastened to cross girders of the loom.

3. A dobby-drive crank is fastened on each end of the auxiliary shaft.

4. Two threaded connecting rods are screwed into two dobby-drive swivels on the dobby-drive cranks.

5. The top of the connecting rods extend through the warp between the drop wires and the whip roll.

6. The warp is leased from equally divided harnesses, and a push bar is inserted through the center of the warp. As the push bar is passed through the leased warp, it is pushed through an opening in each connecting rod.

7. Two compensator bars are mounted to the guides and are over the warp at each side of the push bar. A third compensator bar is placed under the warp directly underneath the top-front compensator bar and fastened to the guide. The whip roll serves as a second bottom compensator bar.

Here's How To Set It

The warp line must be level, and the harnesses must be timed to cross (produce a closed shed) at the beat-up of the cloth.

The dobby-drive swivels are set in the dobby-drive cranks to give a 3-in. vertical movement of the push bar for high-pickage fabrics and are set to give a 1¼-in. vertical movement to improve the cover on conventional-construction fabrics. For either type of fabric, the total stroke of the push bar will be varied slightly to meet the requirements of the particular fabric construction.

When the loom crankshaft is on front center, the auxiliary gears are timed so that the dobby-drive cranks are in an extreme up or down position.

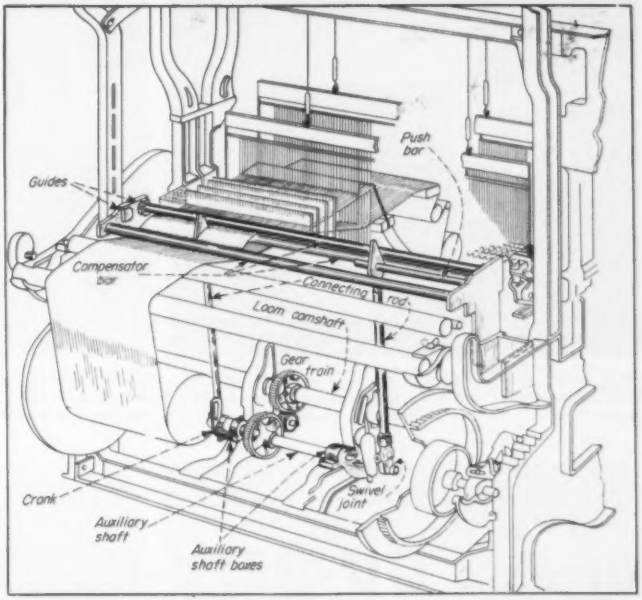
The let-off must be adjusted to provide increased tension on the warp. A 3-in. movement of the push bar will require more tension than a 1¼-in. movement.

Here's How It Works

The push bar oscillates with the movement of the loom and applies tension to the bottom and top warp-shed layers alternately. Three steps explain the weaving movement:

1. As the push rod tightens one shed of the warp at the beat-up, the remaining shed is slack and permits the pick of filling just being closed in the shed to be beaten underneath the cloth at the fell of the cloth.

On the next beat-up, the push bar tightens the other half of the shed and leaves the first half under normal tension, with the result that the pick put into the cloth in Step 1 is completely beaten into the fell of the cloth while the pick inserted in Step 2 underlaps the cloth.



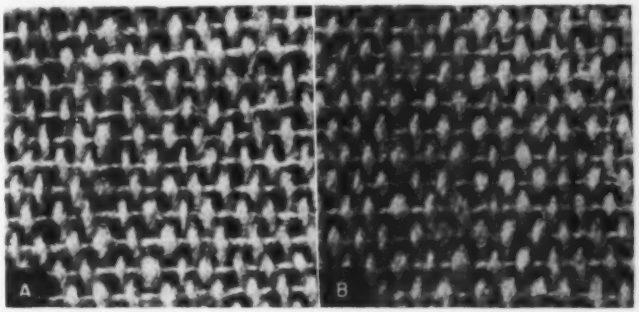
THE COMPLETE ATTACHMENT is shown on an XP loom. The push bar oscillates vertically in the slides and alternately slackens and tightens the two sheds. Two compensating bars on the top and one compensating bar and the whip roll on the bottom help control the yarn movement.

This series of actions permits the filling to be beaten more closely together than is possible in normal weaving when all the warp ends are under the same tension at the beat-up.

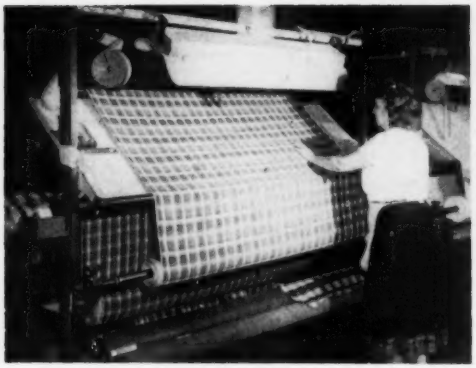
The Attachment Is Used on Different Types of Looms

We designed the attachment for a 42-in. XP Draper loom, but a number of mills have made successful experimental installations on other models of looms. Some of the installations required alterations in the design of the attachment on the loom. For example, on E-model or other close-coupled looms, where there was insufficient space between a full loom beam and the driving mechanism of the attachment, it was necessary to mount the beam overhead.

Other methods are being developed to install the attachment on X-model, Modified-D, and other looms.



THE COVER IS IMPROVED on the sample *B* of broadcloth woven with the aid of the attachment. Sample *A*, woven in the conventional manner, shows distinct reed marks. The uniform appearance of fabrics woven with the attachment is the attachment's greatest contribution to weaving.



WIDE CLOTH IS INSPECTED in the cloth room on power frames. The cloth that is woven on each shift is marked separately on the form to record the defects. Kathleen Simpson is the inspector here.

FLAT INSPECTION IS PREFERRED because fillingwise defects are more numerous than warp defects in checks. Edith Barrett, Ruth King, and Effie Austin inspect gingham patterns.

Here's a QUALITY-CONTROL Program For Weaving

► **A permanent record of seconds is kept at Seaboard Mills. The record is studied each week at the foremen's meeting. The record will—**

- **Indicate poor loom maintenance**
- **Compare the workers' abilities**
- **Show the effect of style**

By HENRY E. GOFORTH, General Foreman, Seaboard Mills, U. S. Rubber Co.

QUALITY CONTROL STARTS in our planning department and continues through the preparation, weaving, and cloth-grading departments.

When a new style is planned, the designing department arranges the simplest harness patterns for the weaver's draw-in draft and also the easiest harness movement to prevent excess wear on the dobby parts.

Through past experience, the designing department knows how different constructions of fabrics should be reeded and the type of selvages that should be used for the best weaving results. On all new warps, whether drawn or tied, head ends are checked by the designing department for wrong draws, incorrect repeats of the filling pattern, and other weaving imperfections.

The head ends are long enough to contain a complete repeat of the filling pattern on long patterns and are about ¼-yd. long on short filling patterns.

A master sample is made on each new style. This sample is checked by the filling-pattern draft and the warp draft. Other head ends on the same styles are checked from the master sample, which is kept in the files.

Prepare the Loom To Weave Quality Cloth

Our loom settings are standard. We clean empty looms thoroughly, and the warp man and loomfixer check the loom by a loom-check card.

Within 2 hr. after the warp man finishes tying in the warp, the loomfixer must check the new warp and set every loom part that is listed on the check card.

After the loomfixer checks the loom, the shift foreman rechecks both the warp man's and loomfixer's work and signs the card or has errors corrected.

How We Stop Cloth Defects

Every roll of cloth has a cut ticket placed on each end to show the loom number, shift, cloth style, and weaver so that the cloth can be positively identified.

Since it is impossible to remove tints from some of our forms, we use strings in the cloth to show shift changes in place of tints put on with a rubber stamp.

Our color code for the shifts is green for the first shift, blue for the second, and red for the third.

When a weaver comes on duty at the change of a shift, he stops the loom, places a colored string in the selvage for the shift going off, and then starts the loom. After the loom has run a few picks, he again stops the loom, places a string of his shift's color in the selvage, and restarts the loom.

The strings are color fast so that if one should fail to be pulled out of the cloth after the cloth is graded, the string will not bleed on the cloth during the finishing process.

Cloth is inspected in the cloth room by two methods. Power frames are used on wide fabrics. On narrow fabrics and fabrics that do not show

JERK-BACKS ARE STOPPED by loomfixer A. L. Edwards when he checks this loom from a continuous defect form. A screwdriver is used to tighten the tension on the thread-cutter spring.

WEAVE-ROOM SHIFT FOREMAN, W. L. Johnson, shows a cut of seconds to weaver Melvin Crocker and loomfixer S. T. Roach. Since the looms are closely checked, few seconds have to be shown.

SECONDS ARE MENDED and sometimes may be placed in first-quality cloth. Minnie M. Simpson is pulling jerk-backs from a roll of cloth that has just been shown to the weaver and loomfixer.

A CUT OF CLOTH IS REFOLDED by Hillery Bowman. Jesse Andrews, overseer of the cloth room, waits for the roll to complete a shipment. The quality index will be made from the shipment.

creases, the cloth is folded and inspected on flat tables.

We believe that flat inspection is better because most of our fabrics have multifilling patterns, and filling defects are more numerous than warp defects. Filling defects can be seen more easily from the side of the cloth than from the face.

The defects of each cut of cloth are marked on an inspection form. On any roll of cloth that has a defect of a continuous nature, the inspector sends a copy of the inspection form to the weave-room shift foreman.

The foreman gives the form to the loomfixer, who checks and fixes the loom immediately and places the form on a hook on the loom arch.

After the loomfixer fixes the cloth defect, the foreman checks the loom and cloth, and he and the loomfixer discuss the defect if the loom is not fixed to the weave-room standard.

The inspection ticket is returned to the cloth inspector afterwards.

The following cut of cloth from the same loom is inspected in the cloth room with special attention given to the specific defect recorded.

If the second cut of cloth shows the same cloth defect, a red danger tag is given to the weave-room shift foreman. The loomfixer and foreman must both sign this tag, and it is returned to the cloth room with the roll of cloth when the cloth is doffed. If second-quality cloth is still being woven at the end of the second cut, the loom number and cloth defect report are given to the general weave-room overseer and the defect becomes his responsibility.

This Is the Key to Good Cloth

Cloth that is degraded is returned to the weave-room shift foreman. He shows the second-quality cloth to the weaver; and if the defect is caused by

A RED TICKET MEANS DANGER at Seaboard Mills. It shows the weave room that a second straight cut of cloth has been made with a continuous defect.

COVER WARP WITH APRON

Keep Waste Down Keep Work Clean

LOOM CHECK

Loom No. ..... Style ..... *Date* .....

LOOM FIXER		WARP MAN	
Shuttles	☐	Harn. Cords & Wires	☐
Boxes & Binders	☐	Sheaves Clean, Free	☐
Magazine	☐	Loom Cleaned	☐
Picking Motion	☐	Temple Rolls	☐
Brake	☐	Pick Gear	☐
Clutch Drive	☐	Tie Threads	☐
Box Motion	☐	Press Roll Clean	☐
Center Stop Motion	☐	Beam Bearing Oiled	☐
Feeler	☐	Harness Level	☐
Protection	☐	Harn. Hooks Divided	☐
Reed in Line	☐	Press Roll	☐
Dobby	☐	Loom Oiled	☐
Take-up Motion & Pick Gear	☐	Pattern Straight	☐
Let-Off Motion	☐	Warp Apron	☐
Loom Tightened	☐		
Temples	☐		
Pattern Chains	☐		
All Bearing Checked	☐		
Race Plate	☐		
Weaving Right	☐		

Signed ..... Signed .....

This Loom Was Checked and Making Good Cloth.

Reason For Loom Stopped if Over 2 Hours:

..... Overseer

START THE NEW WARP CORRECTLY. The warp man checks the loom to see that the loom parts are in good condition to weave the new pattern. The loomfixer checks the loom before and after the check made by the warp man.

CASE NO. .....

Style ..... Date .....

Piece ..... Qual. ..... Loom No. .....

Imperfections in this piece as marked below:

	1st. Shift	2nd Shift	3rd Shift
Broken Ends	☐	☐	☐
Broken Picks	☐	☐	☐
Chaffed in Weaving	☐	☐	☐
Ends out	☐	☐	☐
Finger Marks	☐	☐	☐
Floats	☐	☐	☐
Loose Marks	☐	☐	☐
Loose Picks	☐	☐	☐
Mispicks	☐	☐	☐
Misplaced Ends	☐	☐	☐
Pinheads	☐	☐	☐
Ripping Marks	☐	☐	☐
Shirey	☐	☐	☐
Slubs	☐	☐	☐
Smash	☐	☐	☐
Stickers	☐	☐	☐
Tight Marks	☐	☐	☐
Tight Picks	☐	☐	☐
Machine Marks	☐	☐	☐
Woven in Dirt	☐	☐	☐

Classification .....

General Classification .....

1st Weaver ..... yds. .....
2nd Weaver ..... yds. .....
3rd Weaver ..... yds. .....
Total .....

Remarks: .....

CLOTH IMPERFECTIONS ARE MARKED on this form in the cloth room. The form is sent to the weave-room shift foreman, who gives it to the loomfixer. The shift foreman checks the loom after the loomfixer and returns the form to the cloth room.

the loom, he also shows the cloth to the loomfixer.

After the cloth is shown to the weaver and loomfixer, the shift foreman marks the defect and the number of yards of cloth on his shift on a seconds sheet. The weaver is always present when the sheet is marked.

The seconds sheet is changed each week and covers a week's production.

Again, the shift color scheme is used. The loomfixer's sections are listed alphabetically rather than by section numbers. This practice is simpler than the section-number system since we know immediately, for example, that M is the 1st shift, N is the second shift, and O is the third shift.

The loomfixers and weavers are interested in the seconds sheet and in keeping their seconds low, since the sheet is entered in a permanent record.

In rearranging jobs at style changes, the employees' permanent records are always the basis for selecting the employees for job layouts.

Seconds Record Is Analyzed

The week's seconds record is analyzed each week at the general meeting of the supervisors. Several things are checked:

1. Trends that indicate loom maintenance is needed.

For example, if section G H K had 10 breakouts in one week when the average breakouts per section were 5, indications are that the looms on section G H K are in poor mechanical condition. The loom leathers, box alignment, picker condition, etc., would be checked and corrected.

If broken picks were apparent in greater numbers than on other sections, the center filling stop motion would be reset and overhauled if necessary.

If overshots or undershots of the filling in the warp were shown, the dobbys would be checked and corrected and the harnesses reset.

2. Loomfixers and weavers are evaluated.

For example, if the weaver on the first shift (green) on the set of looms 236 to 252 had seconds caused by weaving defects such as ends allowed to run out, numerous harness skips, or other defects such as wrong draws, supervisory correction is necessary.

3. Effect of style changes.

If a group of looms have been running with low seconds and seconds go up when the cloth styles are changed, it may be necessary to check the design to be sure the cloth is weaving the best way, rearrange the weaver's or loomfixer's job load, or start a maintenance program.

Causes of Seconds Are Traced

Poor yarns that show up in the

warps on the looms are shown to the slasher tender. Each yard of warp that is run by a slasher tender is recorded, by cut numbers, on a ticket.

The slasher tender keeps a ticket from the warpers that shows any bad warping practices that may develop.

Since the warper tender also keeps a record of dye-lot numbers from the cones of yarn, bad preparation work can be traced to the offending frames.

All of the filling is quilled on Abbott automatic quillers. The filling is marked and defects are eliminated by checking bad work back to the quillers.

Seconds that have been shown up in the weave room are returned to the cloth room and given to the menders. It is determined in this department if the cloth can be mended without too much cost. Often a cut of cloth can be mended in several places and cut into 20- to 40-yd. lengths. When this practice is possible, the cloth is taken from the 40% discount bracket and placed in the 10% discount bracket.

Sometimes the cost of mending the cloth would be very much greater than the gain, and the cloth is sold as seconds.

When the cloth is packed for shipping, the quality is recorded on a ticker tape. The quality index is taken from the tape on each shipment of cloth.

Seaboard Mills

SECONDS Shift... all ... Week ending... 2-23-52

	Loom No.	Mon.	Tues.	Wed.	Thur.	Fri.	Sat.	Total	
M-1	101	F Cut 15 BK 17	BKs cut 30	TP cut 25	BP 25	SK BP 12		122	
N-2	to	24-Goff 20 BK.				6-P off		58	369
O-3	112	cut 7 cut 16 BP 20	Short 29	cut 83 cut 25 BP 25		cut 21 Roff 25		189	
M-1	113			BPs 20 BK cut 25 2F SkW 25		wof - 12 BKs 18	SW	25 72	High
N-2	to		30 B.P.	30 Skips 23 BP 24 BP	20-BK 29-BP	30 BP BP	High weaver →	214	522
O-3	124	B.P. BK. 25	Short 20 BP 25	cut 25 BP 25	CUT 16	cut 20 BP 35		211	Set
M-1	125	SP. 16			BPs 20			36	
N-2	to	30 BP		32-BP	18 Short	5 Short		80	216
O-3	136			BP-25	cut 25	BK-25 cut 20		100	
P-1	137	BPs-20		SP. 20		SP. 32		72	
R-2	to							-	193
S-3	149		WH-20	3 short 20		TS 3		121	
G-1	197			KF BPs 25 KF 25		WD-30		80	
H-2	to	25-MK						25	125
J-3	207							20	

Denim + Drapery: 1-283, 2-46, 3-102 — Totals 433

Gingham 1-863, 2-471, 3-250 — Totals 2084

THE DAILY SECONDS RECORD is made when the seconds are shown to the weaver and loomfixer. The high-seconds weaver is shown at the end of the week. A color code is used for each shift.

QUALITY INDEX Shows Dollar Value of Cloth

►A quality index, resulting from a calculation that shows the dollar loss from off-quality goods, is used by Seaboard Mills to—

- **Insure first-quality warps and filling**
- **Control the seconds in the weave room**
- **Reclaim cloth devaluated by bad workmanship**
- **Keep a day-to-day record of cloth-dollar sales**

By HENRY E. GOFORTH
General Foreman, Seaboard Mills, U.S. Rubber Co.

WE HAVE A CLOTH-GRADING SYSTEM at Seaboard Mills that shows us the exact dollar value of each shipment of cloth. The total sales value of our cloth for each week, month, or year is always available in our files and is broken down into the various constructions of woven fabrics.

A "quality index" is the basis of our calculations. This quality index includes the reclaimed value of off-quality work and shows the loss from off-quality cloth on each dollar of sales.

Here's a Sample Quality-Index Figure:

Seconds are sold at a 40% discount
1- to 10-yd. short lengths are sold at a 40% discount
10- to 20-yd. short lengths are sold at a 30% discount
20- to 40-yd. short lengths are sold at a 10% discount

Each construction of cloth is kept separate when it is shipped. (We make spun-rayon suitings, cotton draperies, ginghams, and other fabrics.) The total yardage of each type of cloth is added together, and we get the quality index by subtracting the total off-quality loss from 100.

Here's An Example of a Spun-Rayon Suiting Shipment:

Total shipment: 44,587 yd.
780 yd. of 1- to 10-yd. short lengths
1,074 yd. of 10- to 20-yd. short lengths
1,630 yd. of 20- to 40-yd. short lengths

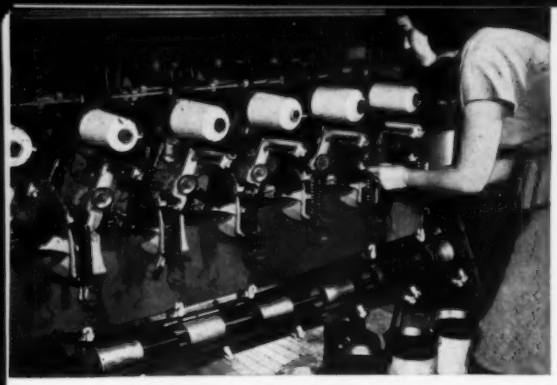
The index loss is 312 yd. of 1- to 10-yd. short lengths, 322 yd. of 10- to 20-yd. lengths, and 160 yd. of 20- to 40-yd. lengths for a total of 794 yd.

We substract the 794-yd. loss from the total shipment, which gives 43,793 yd. of first-quality cloth. The first-quality yardage (43,793) is divided by the total-shipment yardage (44,587) to obtain the index figure.

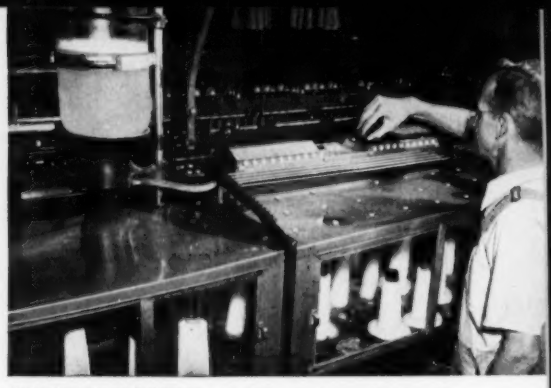
In this case the quality index is 98.62. The total dollar value of the shipment is 44,587 yd. of cloth times the price per yard times 98.62.

Use of this system eliminates the figuring of percentages of seconds for the cloth room, weave room, shift foremen, loomfixers, and weavers.

Our quality index was over 99.0 last year.



COMPARATIVE CONING OIL TESTS were run by this throwster in an effort to improve quality. Sunoco Fibrlub L-220 gave the finest results. It lubricated better, reducing breakage. Because it does not change in viscosity or composition, Fibrlub L-220 eliminated preferential pick-up. Along with economies in production, it brought substantial savings in process oil costs.



DELAYS ELIMINATED. A well-known knitter had trouble with an expensive trough oil. It would not form stable emulsions and it frequently caused unlevel dyeing, because it would not scour out thoroughly. Changing to Sunotex TS-48 proved the answer to both problems. In addition, Sunotex TS-48 helps him get cleaner, rounder, more uniform stitches.

MILLS FIND 3 SUN PROCESS AIDS MEET ALL NYLON HOSIERY NEEDS

Through the years, working in close collaboration with the technical staffs of nylon throwsters and knitters, Sun Oil Company research groups have developed three process aids which meet all fiber lubrication requirements of the full-fashioned hosiery industry. Each serves a particular purpose: Sunoco Fibrlub L-220 is a coning oil for throwsters; Sunotex TS-48 a trough oil for knitters of 30-and-higher-denier hose; Sunoco Fibrlub 45 a special wick oil for knitters of 15 and 20-denier hose.

That there are real advantages in using these "Job-Proved" process aids is obvious from their extensive use in plants throughout the East, the South and Canada. For information about how they can help you produce better nylons faster, and more profitably, fill in the coupon below.

SUN OIL COMPANY, Dept. TW-7, Philadelphia 3, Pa.

We would like to consult a Sun representative in reference to ☐ coning oil, ☐ trough oil, ☐ wick oil.

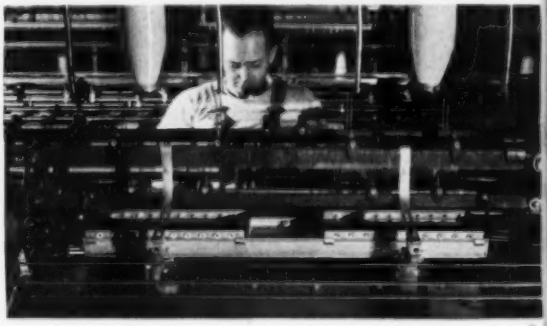
Name_____

Title_____

Company_____

Street_____

City_____ Zone____ State_____



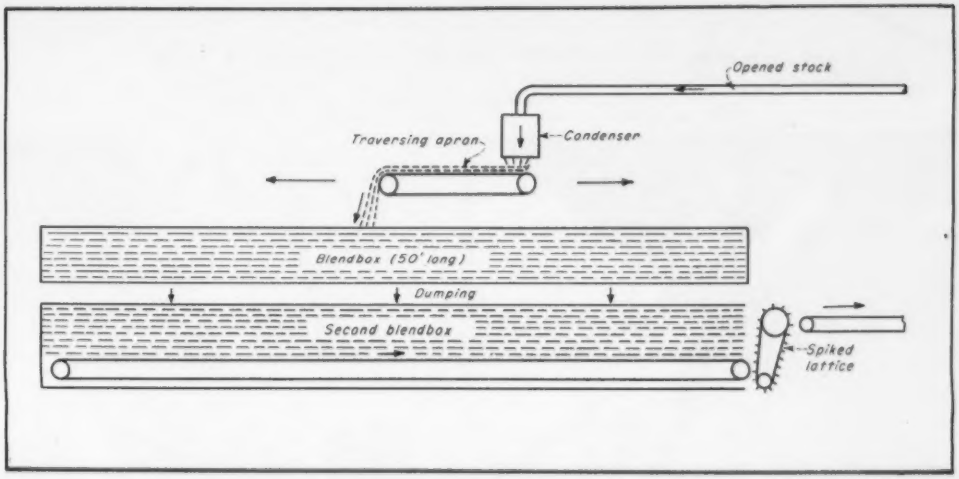
A COMPLETE LINE OF PROCESS AIDS. In addition to nylon-process aids, Sun Oil Company produces textile-process aids for use with wool, synthetics, blends of wool and synthetics, cotton and cordage. Sun's technical staff, backed by Sun's extensive research facilities, is at your service for consultation on any processing problem you may have.

WEAR HAS BEEN NEGLIGIBLE on needles and carrier tubes ever since a prominent knitter of 15 and 20-denier hose adopted Fibrlub 45 as his wick oil. He says that this product, though less costly, is superior in thread lubricating qualities to most of the oils he used before. It feeds readily through the wick and is delivered in sufficient quantity to the thread.

SUN INDUSTRIAL PRODUCTS

SUN OIL COMPANY, PHILADELPHIA 3, PA. • SUN OIL COMPANY, LTD., TORONTO AND MONTREAL

SUNOCO®



BLENDING SYSTEM for cotton and synthetic staple up to 4 in. long, developed by J. Rieter & Co. Ltd., Winterthur, Switzerland, has two synchronized 50-ft.-long blendboxes that feed a "sandwich blend" to the pickers by means of a vertical lattice.

EUROPEAN MACHINES
Have Novel Features

► Several important advances in European technology and machinery of interest to Americans were on display at textile exhibitions this past spring in Europe. These and other interesting developments were observed by Herbert L. Werner, head of Werner Textile Consultants, New York, during his recent visit to European shows, textile-machinery manufacturers, and mills.

► Especially significant were a two-layer 50-ft.-long double-box blending system developed in Switzerland for blending cotton and synthetic-staple stock, an Italian card with the lap feed and sliver delivery on the same end, and a constantly moving top-apron clearer by Casablancas for spinning frames.

The material presented here is a summary of the highlights of an interview with Herbert L. Werner, head of Werner Textile Consultants, New York, who returned at the end of May from a 60-day textile study trip in Italy, Switzerland, and France.

TEXTILE-MACHINERY DEVELOPMENTS in Europe are numerous. Among the most significant seen by Mr. Werner this spring were the following.

The new Rieter blending system has a condenser on top that places material on an automatic conveyor mounted on top of the blending machine. The conveyor travels back and forth along the entire length of the 50-ft. machine. From the conveyor, stock is dropped into the upper bin and builds up like a sandwich.

When the upper portion is filled, the gates open and the "sandwich" drops to the bottom part of the machine, onto a lattice conveyor. Thereupon, the gates close again automatically, and the operation cycle is repeated.

Meanwhile, the lattice conveyor moves the sandwich along to the head of the machine, where an upright spiked apron slices the sandwich layers vertically. The stock thus taken is then carried pneumatically or by conveyor to the picker room.

Another new development in Europe, which is of particular interest to American textile men, is a new cotton card developed by Fratelli Bettoni of Bergamo, Italy. The feeding of the lap and the delivery of the sliver are both in front of the card. This novel approach to card design has not been attempted before, as far as Mr. Werner knew, and presumably will facilitate supervision of cards and handling of stock in process.

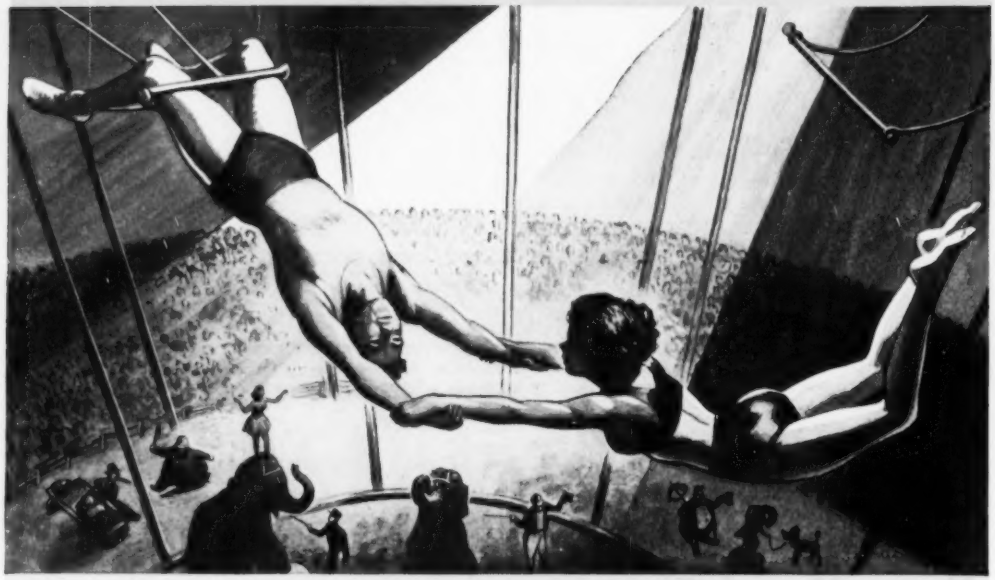
There are 244 flats that go practically all around the card, which in turn has no grid bars. The flat strips are taken off in the back and are delivered into a box through a pneumatic arrangement on each card.

This flat-stripping arrangement also is a new feature of the machine. It is also worthy of note that there are a great number of automatic stop motions and signals on the Bettoni card.

Other developments of interest that

Teamwork

Soaring through space with competent ease, a highly trained team on the flying trapeze. Teamwork counts — under the "big-top" — in industry.



What can we do to help insure the future of your business? That's what Butterworth engineers have been asking for 131 years — the question has special meaning today.

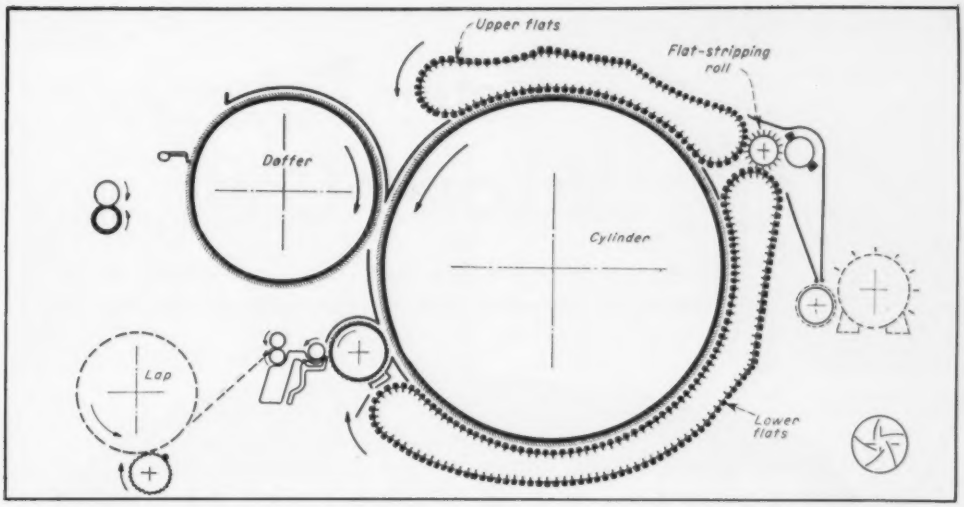
Thinking of new machines? We will do the utmost to meet your requirements, within the limits of our metal allotments. Making long range plans? Our engineers are at your service. Even now they are teamed with many of America's leading mills, thinking of the years ahead and planning with them to maintain their competitive position.

Butterworth service is offered too, to help your wet finishing department get the most out of what you now have — to keep equipment at peak efficiency. It may be only a spare part you need — but if you need it in a hurry, you'll get it in a hurry if it is humanly possible.

A letter, a wire or a phone call will put a Butterworth engineer on your team.

H. W. BUTTERWORTH & SONS COMPANY
Bethayres, Pennsylvania
1211 Johnston Bldg., Charlotte, N.C. • 187 Westminster St., Providence, R.I.
Machines for Bleaching, Boiling-Out, Mercerizing, Dyeing, Finishing and Embossing : : Pot Spinning Machines for Synthetic Fibers
Calender Rolls : : Tenter Chains

BUTTERWORTH



BOTH FEED AND DELIVERY are on the front end of a single-end card that was shown by Fratelli Bettoni, Bergamo, Italy. By means of a high doffer, the picker lap can be laid underneath it to enter the card.

Mr. Werner observed in Europe were:

1. Italian manufacturers have come up with a new drafting arrangement on their worsted spinning frames that permits the drafting of both twisted and untwisted roving.

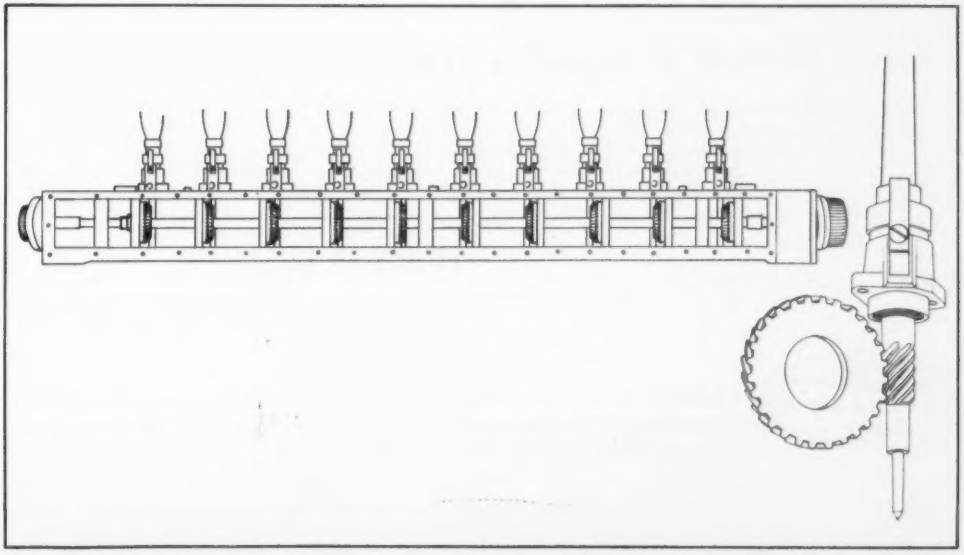
2. A movable cleaner by Casablanca for spinning-frame top aprons moves from one end of the frame to the other and back again.

3. A pick-gear change system on the Belgian Picanol loom requires no wrenches or other tools.

4. A built-in attachment on an Italian (Gorizia) loom permits operation of the loom in reverse, after a filling break, so that the pick can be easily found.

5. A production rate of practically 750 ppm. is possible on the French Fayolle-Ancet circular loom, and mechanical improvements have been made on the loom also.

6. The "pendulum" device for drafting top rolls on spinning frames developed on various European models is applicable to most existing drafting systems. The device facilitates cleaning of the rolls, eliminates the cap bars, and distributes pressure evenly.



DIRECT-DRIVE SPINDLE brought out by Hispano Suiza, Barcelona, Spain, costs $7.50 per spindle in Europe. But users of the spindle say its speed is limited to 8,000 rpm.

TOPS in PERFORMANCE

A Better Detergent at Lower Cost

When you scour, you can now cut costs at the same time that you get better results! After extensive laboratory and field tests, Onyx offers you

mapro D liquid

- **A superior emulsifying agent . . . and better detergent than other available compounds.**
- **With excellent foaming properties—even at concentrations as low as .04% and under prolonged boiling.**
- **Priced under all comparable materials.**

Give Mapro D Liquid a Trial

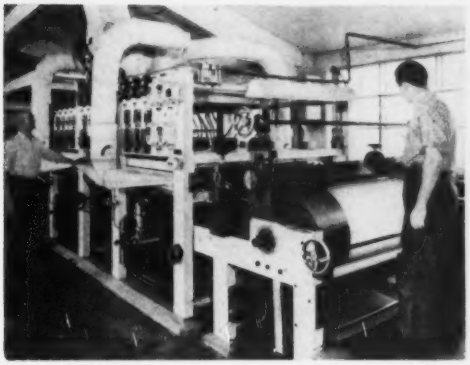
Even if it were only just as good as the product you're using—it would save you money. BUT... you'll find that it's a whole lot better!

LOWER in COST

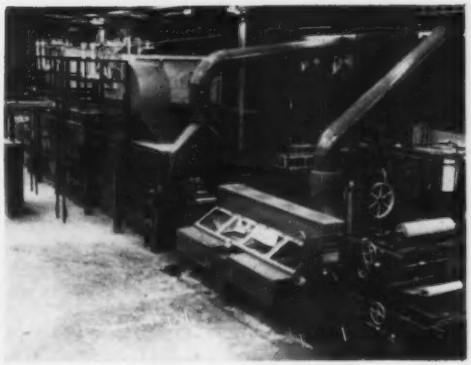
onyx CHEMICALS FOR DYEING • FINISHING • PRINTING

ONYX OIL & CHEMICAL COMPANY
TEXTILE DIVISION
WARREN & MORRIS STS., JERSEY CITY 2, N. J.
CHICAGO • BOSTON • CHARLOTTE • ATLANTA

In Canada: Onyx Oil & Chemical Co., Ltd., Montreal, Toronto, St. Johns, Que. For Export: Onyx International, Jersey City 2, N. J.



INFRARED HEAT cures the coating in this machine and eliminates the need for an oven. Any suitable coating head may be used.



CONVECTION HEATING cures the coating in this coating oven. It has reverse-roll and knife-coating heads, plus embossing equipment.

Machine Selection and Ventilation Are Critical Points in FABRIC-COATING

- Drying and curing methods must be chosen for your process
- Oven types and ventilation exhaust design are critical

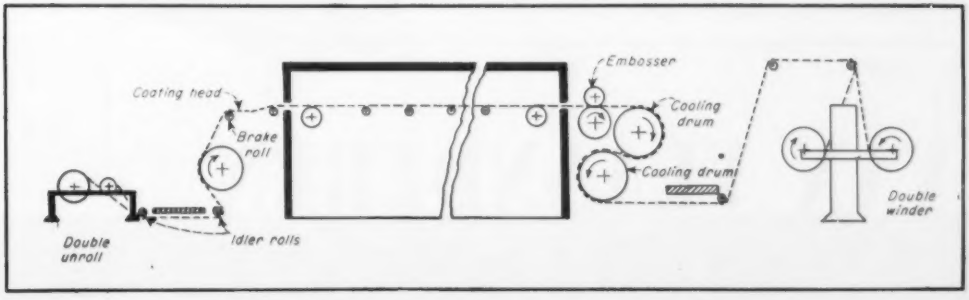
By **THOMAS J. KERR,** Coated Fabrics Consultant

SEVERAL DIFFERENT METHODS have been successfully used for the drying and fusion of coatings applied to fabrics. Many finishing plants, particularly those that are equipped to do permanent finishing with heat-curing resins such as the urea-formaldehydes or melamines, may have available ovens suitable for this purpose or units that can be adapted with but minor changes.

Uniform Heating Needed

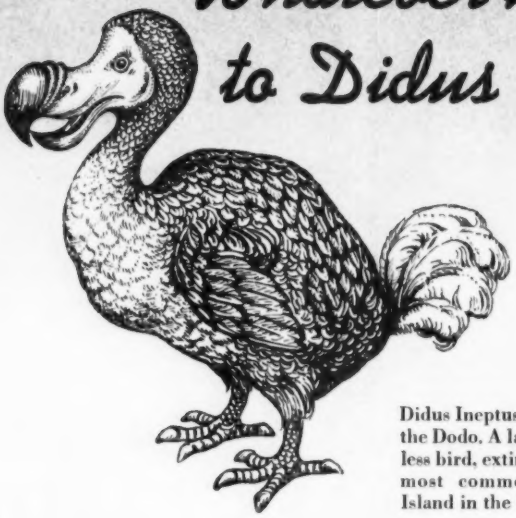
The process used for straight plastisol fusions is relatively unimportant so long as it will raise the entire body of the coating to the fusion temperature of the compound with a minimum of heat exposure to the cloth. In most instances this is approximately 350° F. Thus the selection of the equipment and the method of heating can be determined largely by considerations such as available space; rate of processing required; efficiency; cost of equipment, installation, operation, and maintenance; and the possibility of using already available equipment and power sources.

Straight single-pass drying ovens, horizontal multiple-pass drying ovens, fixed- and loose-stick festooning ovens, and drying towers all have been used successfully for the purpose. The use of multiple vertical-pass drying ovens is generally not recommended, for in



SINGLE-PASS DRYING OVEN is adaptable for organisol and plastisol applications.

Whatever happened to Didus Ineptus?

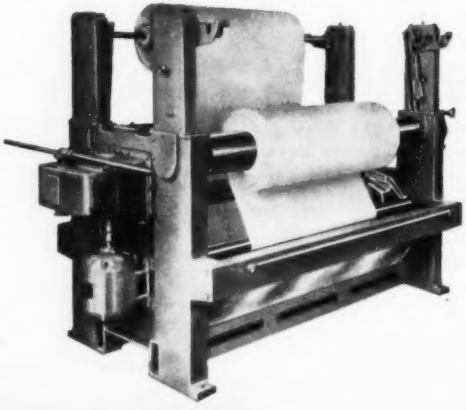


Didus Ineptus. Commonly called the Dodo. A large, clumsy, flightless bird, extinct since 1681. Was most common on Mauritius Island in the Indian Ocean.

The ornithologists tell us that the dodo has been extinct for over 250 years, but don't you believe it. He is very much with us even today.

Almost every processing plant has obsolete machines—sad old birds that hatch nothing but losses.

Perhaps some of your *jigs* have outlived their usefulness. Why not retire these dodos to a museum and replace them with modern Van Vlaanderen 888 Jigs, designed for the future?



The 888 has created a new standard of jig performance. Its massive construction and precision engineering enable it to deliver better quality dyeing at lower cost per yard.

This is a good time to study your dye room critically. Why not ask our engineers to help you?

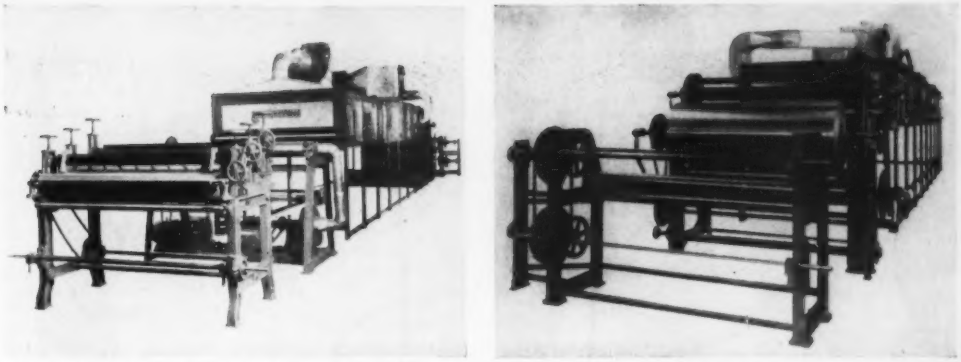
VAN VLAANDEREN

MACHINE COMPANY

370 Straight Street, Paterson 3, New Jersey

Cable address: VLAANDEREN, Paterson, U.S.A.

World's largest manufacturer of machines for processing modern fabrics



HOT AIR CURES the coating in this machine, a coating, fusing, and embossing line. Entering end (left) and take-off end (right).

this type of set-up there is repeated contact of the surface of the coating with the bottom set of supporting rolls, which invites trouble.

The source of heat may be high-pressure steam, electricity, oil, or gas. Circulating hot air, direct radiation, or conduction heating by the passing of coated cloth over heated drums or metal belts have proved the most popular. Combinations of conduction and direct-radiation heating methods have established value. The passing of the cloth through a molten bath of a low-melting-point alloy has been used; but difficulties, which may result from overheating in the event of a shut-down, and oxidation of the metal, have so far tended to limit its use.

Ventilation Is Important

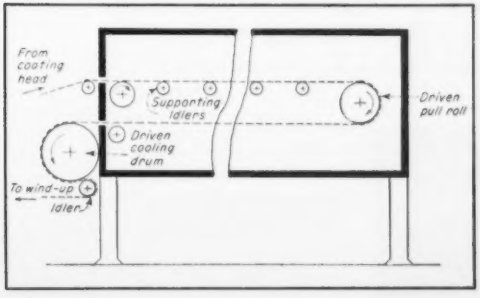
Regardless of the method of fusion or drying, the evacuation of the oven for the removal of fumes or solvent vapors, or the hooding and venting of fusion drums or belts to keep the effluvium from passing into the surrounding atmosphere, must be given primary consideration. With latex coatings, water vapors must be removed as evaporated, to obtain drying efficiency, since an accumulation of water-saturated air will retard the rate of evaporation. Volatile portions of the plasticizers and certain stabilizers, as well as moisture from the fabric, are evaporated in the fusion of latices, plastisols, and organisols. These fumes are irritating and must be removed. In the event that organisols or solutions containing volatile organic solvents are used, adequate air circulation, to keep the solvent concentrations below the lower limits of flammability, is essential for the safety of the operation.

Any operation, involving the use of organic solvents, can only be carried on safely if the operating conditions are below or above the limits of flammability of the vapor concentrations. Operation at concentrations above the upper limits of flammability is not recommended, for it is necessary to pass through the explosive range before safe operating conditions are established when the unit is started up, and to return through that same state as it is shut down. When an installation is designed for the use of solvent, the minimum amount of air, which must be continually removed from the oven to insure safety under conditions of maximum hazard, should be based on actual calculations of solvent-vapor concentrations.

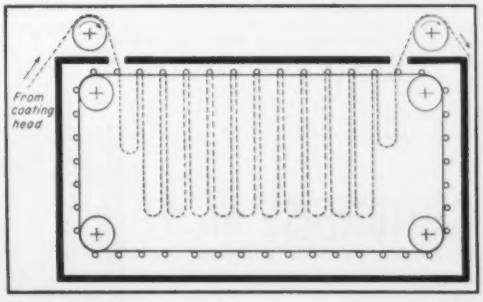
Avogadro's Law Applicable

Calculation of the conditions of flammability is based on Avogadro's law, which states that one gram-molecular-weight of a gas will occupy 22.4 liters under standard conditions of temperature and pressure.

The first step in the calculation is to determine the composite molecular weight of the solvent to be used. This is accomplished by multiplying the actual molecular weight of each component by the percentage of the component in the solvent mixture. The sum of these percentages is the composite molecular weight, and this weight of the solvent in grams would occupy 22.4 liters under standard conditions, if it were a gas in these circumstances. The volume that the solvent will occupy under oven conditions, when evaporated and in the gaseous form, is then calculated by the application of the laws of Charles and Boyle, combined in the general for-



TWO-PASS DRYING OVEN permits higher operating speeds when fusing plastisols.



FIXED-STICK FESTOON OVEN works well with hot air for the fusing of plastisols.

Unusually effective in scouring vat-dyed goods following the chrome acetic bath, Santomerse No. 1 brings other and equally important properties to textile processing. It has particular merit when used in acid or alkali mediums.

Santomerse No. 1, as well as Santomerse 80, are used in scouring and penetrating cottons, nylons, acetates, silks—even when these different fibers are knit together . . . They aid in level dyeing, prevent spotting by metallic curds, help keep bright colors brilliant.

The use of Santomerse 80 represents a saving on the basis of active content. This is of particular value in mills where storage and handling are important considerations.

Get detailed information on Monsanto detergents and wetting agents from the nearest District Sales Office, or write MONSANTO CHEMICAL COMPANY, Phosphate Division, 1700 South Second Street, St. Louis 4, Mo.

Santomerse: Reg. U. S. Pat. Off.

DISTRICT SALES OFFICES: Birmingham, Boston, Charlotte, Chicago, Cincinnati, Cleveland, Detroit, Los Angeles, New York, Philadelphia, Portland, Ore., San Francisco, Seattle. In Canada, Monsanto Canada Limited, Montreal.

SANTOMERSE No. 1

MONSANTO
CHEMICALS - PLASTICS

SANTOMERSE 80

SERVING INDUSTRY . . . WHICH SERVES MANKIND

mulae, $\frac{PV}{T} = \frac{P'V'}{T'}$ in which P, V, and T are the original conditions of the gas, P', V', and T' are the changed conditions of the same gas. The temperature used should be the operating temperature of the oven, converted to the absolute-temperature scale. The pressure should be the mean atmospheric pressure for the area. For ease in engineering calculations, the result is usually converted to weight per cubic foot.

Taking the maximum hazard as the conditions created when the coating machine is operating at the highest possible speed, with the widest possible cloth, and the heaviest practical coating with the highest percentage of solvent being applied; the weight of organic solvent evaporated per minute is calculated. The formula for this calculation is the product of the speed of the coater in yards per minute, times the coating weight applied per linear yard, times the percentage of solvent in the coating compound.

If we know the weight of solvent that will be evaporated into the oven per minute, the cubic feet it will occupy can be determined by dividing this weight by the composite molecular weight, and multiplying by the space occupied by each composite molecular weight under oven conditions. It is then possible knowing the size of the oven, to calculate the number of cubic feet of air it will be necessary to move through the oven per minute to maintain vapor concentrations below the lower limits of flammability, with an appropriate factor of safety.

Find Flammability Limits

The lower limits of flammability of most of the solvents used in solution coating and organisol work will be found in a bulletin on this subject, available from the U.S. Dept. of Commerce. This bulletin also gives much valuable information on other phases of the problem. If information on any specific solvent is not available, it can be determined by the use of a Hempel pipette or similar apparatus.

After establishing the lower limits of flammability of the various components, the lower limits of the solvent mixture can be calculated by the use of Le Chatelier's formula for the determination of the composite lower limit of flammability of mixed gases,

$$L = \frac{100}{\frac{a}{L_1} + \frac{b}{L_2} + \frac{c}{L_3}}$$

where L equals the lower limit of flammability of the mixture, a, b, and c are the percentages of the various solvents in the mixture, and L_1, L_2, and L_3 are the lower limits of flammability of the component solvents.

Most manufacturers establish the intake air at the oven so that the concentration of solvent vapors can never be over 50% of the lower limit of inflammability. Some operators and certain insurance companies prefer to

(Continued on page 194)

Metallic Clothing Raises COTTON-CARD OUTPUT 39%

PROBLEM: Gosnold Mills needed additional card production but had no space for new cards.

SOLUTION: Metallic card clothing gave increased production equivalent to 15 cards. No grinding, reduced stripping, and better uniformity also resulted—says a new P&S film.

By WILLIAM A. NEWELL, Consulting Editor, TEXTILE WORLD

How Gosnold Mills, New Bedford, Mass., increased cotton-card production nearly 40% is described in a new film produced by Proctor & Schwartz, Inc. The film, entitled "Modern Cotton Carding," describes how the mill reclothed 38 cotton cards with metallic clothing and obtained an increase in production equivalent to 15 additional cards, with no capital-equipment outlay.

Gosnold faced the problem of needing additional card production but had no space in which to fit additional cards. Use of the metallic clothing solved the problem.

Much of the cotton processed by Gosnold is 1 7/8-in. Egyptian cotton. Most of this cotton is spun into 90s yarn. Card production with fillet clothing was 2¼ lb. per hr. Production with metallic clothing is 6¼ lb. per hr. The film also describes an increase in production, through use of metallic clothing, from 7¼ to 10¼ lb. per hr. with 1- to 1⅛-in. cotton being processed into 45-gr. sliver.

Part of the production increase made by Gosnold is attributed to time saved through reduced stripping, no grinding, and to stock saved in reduced stripping waste.

With the metallic clothing, stripping is virtually unnecessary. Fiber does not become embedded in the wire, and only occasional stripping to remove vegetable matter is necessary.

Stripping waste at Gosnold with fillet clothing was 9%. With metallic clothing, the waste was cut to 4½%. (Fillet clothing is used on the flats.)

Gosnold formerly ground its fillet clothing every 19 days. With metallic clothing, grinding is unnecessary, and time required for normal grinding is saved. In spite of lack of grinding, Gosnold found no drop in yarn quality. Flats require grinding, of course, but this is done while the card is producing.

Gosnold engineers are also said to have obtained more uniform sliver weight and fewer good fibers in the waste with metallic clothing.

The film, in color and with sound, runs about 18 min. Besides describing the Gosnold experience with metallic clothing, the film shows how card cylinders are prepared for metallic clothing and how the clothing is mounted.

A showing of the new film can be arranged through Proctor & Schwartz representatives or by contacting Proctor & Schwartz, Inc., Seventh St. at Tabor Rd., Philadelphia, Pa.

TEXTILE BANKING COMPANY
Inc.

Factoring Service

Puts your sales on a cash basis
Strengthens your cash position
Relieves you of credit losses

55 MADISON AVENUE • NEW YORK

Pointers FOR SUPERVISORS

GROUP INSTRUCTION—
An Essential Function of Supervision

▶ **Group instruction is a technique difficult to master. Yet it's a "must" for the good supervisor because he's the key man in getting the worker to understand new company policies and practices.**

By **PAUL A. KING,** Attorney, Bigelow-Sanford Carpet Co.

IT'S OFTEN A COMPLAINT of top management that new company policies and practices are not translated into action at the worker level in quite the manner contemplated when they were decided upon. Tendency is to blame this condition on the way the new facts are presented to the rank and file by first-level supervision. A worker who does not understand a new personnel practice or a new method of operation cannot participate in it effectively.

There is considerable substance to this management complaint. One of the commonest shortcomings of supervisors is the inability to make their groups clearly understand anything new that affects the group as a whole. One reason is that the supervisor frequently misjudges the capabilities of individual members of the group to assimilate the information—and consequently presents the new ideas in a way that leaves some employees hazy or completely in the dark.

This deficiency can usually be corrected when the supervisor understands how group instruction differs from individual instruction. In group instruction, he must be sure that each member of the group gets the same concepts and the same understanding from his single presentation of the facts.

How can this rapport between the supervisor and each member of his group be achieved?

Here are some suggestions for a systematized, four-phase technique that involves (1) the right approach; (2) a clear presentation of the facts; (3) a check on the effectiveness of the discussion; (4) a round-up of the high spots of the new policies and how they will affect future operations.

The Right Approach

The first step is to establish a cordial atmosphere at the meeting, putting each member of the group at ease. Then tell the group the general topic or topics that will be discussed. If any terms need definition or if any background should be supplied, do it in the beginning in order to avoid later confusion or misunderstanding.

With this introduction over, state the reason why the meeting is being called and why it is of particular importance to those present. If you think notes should be taken, advise the group of that fact and have materials handy for that purpose.

How to Present the Facts

With the ground work completed and the group primed, proceed with the general purpose of the meeting. You should both tell them verbally and illustrate where possible, what you mean. A combination of the "explanation" and "demonstration" methods can be extremely effective.

In your presentation, make sure that all points are covered in logical order so your people can fit them into the over-all objective. But don't read from written material unless it is absolutely necessary—this method tends to distract and lessens interest.

It's a good idea to use charts or a blackboard if these aids are available. If your discussion involves a bit of equipment, reference to it or to a model will always aid your explanation.

Include illustrative stories, when appropriate, from actual experiences that are familiar to the group. But be careful here not to go off on tangents.

Emphasize each new point as it is made, and identify those that are most important. Make clear the transition from one point to the next.

Encourage questions at any phase in the discussion where they will not distract or cause a break in the train of thought. But answer only those that are relevant and essential to the topic. Nothing tends to get a discussion off the track easier than pointless inquiries that are far afield from the ideas you are trying to get across.

During your entire presentation, be as short, as interesting, and as vivid as your subject will permit—otherwise some members of the group may lose interest. Another important element is sincerity—the more sincere your presentation, the more likely it is that the group will accept, willingly, what you have to offer.

Check on Effectiveness

When you think you have gotten all the new facts across to the group, you should make sure that everyone really understands. You can do this by getting the group members to participate in a discussion of what has gone before.

Here it's up to you to start the ball rolling with a few provocative questions. It will be wise to have previously decided on these and how you will use them.

Questions you ask should be clear and phrased in such a way that definite answers are required. Avoid those that can be answered by "yes" or "no." Fit the questions into a definite sequence that accords with your earlier presentation. Try to cover as many members of the group as you can.

This phase of the meeting calls for special alertness on your part. You must control the course of the discussion so that each person will gain a clear grasp of the subject matter and will know how to apply it to his own work. Try to spot inattentive or puzzled-looking members of the group and single them out for some key questions. At the same time, be

(*Continued on page 208*)

Cook

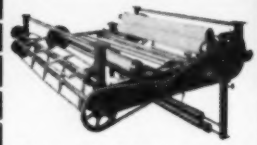
PATENTED P&N

...THE ONLY COMPLETELY AUTOMATIC CLOTH OPENING RANGE

Just one man

- a. Removes twist
- b. Removes tacking thread
- c. Opens cloth
- d. Extracts water
- e. Folds cloth

VACUUM EXTRACTOR

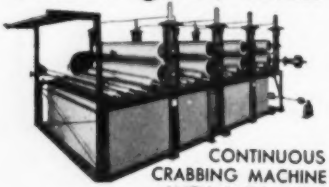


On certain fabrics, squeeze rolls can be replaced by this Cook Scutcher with extractor.

Only one operator handles the entire detwisting, (detacking if required), opening, extracting and folding operations. WOOLENS, WORSTEDS, BLENDS, SYNTHETICS and COTTONS, wide or narrow, light or heavy fabrics are safely handled at speeds up to 70 yards per minute. Only one manufacturer — Cook — has the know-how to build this range. Only one manufacturer — Cook — accepts the responsibility for the satisfactory operation of all the machinery as a unit.

The range is composed of proven machines, synchronized for variable speeds and utilizes electric-eye stop motions throughout. The COOK DETACKER (shown at left) operates at the most advantageous point, after the twist is removed. If you are using one of the 700 Cook Detwisters now in operation, you know Cook machines are dependable. If we are new to you, won't you send for our complete catalog?

Another Cook Product



CONTINUOUS CRABBING MACHINE WITH 4 OR MORE STAINLESS STEEL BOWLS

COOK-P&N MACHINE CO., INC., 365 DORCHESTER AVE., BOSTON 27, MASS.

Exploring

The Textile Community

VACATIONS Bring Rest And Zest to Mill Towns

By MILDRED BARNWELL ANDREWS

▶ Company-owned beach resorts and planned tours may be a key to better living in textile communities of tomorrow.

MILDRED ANDREWS

HERE IT IS SUMMERTIME, again: fast time, slow time, and vacation time! Every mill community is rife with plans for fun. Some are for local fun—just loafing, fishing, gardening, and enjoying the lazy summer days. Others are for young fun, Girl Scouts, Camp-Fire Girls, and Boy Scout camps. And every week from some textile communities bus-loads of happy vacationers are off to the holiday places where they may get a new view, forget the humdrum work-a-day life in a change of tempo and scenery. During the recent years of profitable operations many textile mills invested in vacation sites for their employees. Now, when operations are being curtailed, workers have more time available and want to spend as many days as possible resting and enjoying these facilities in anticipation of longer work days in the autumn.

Avondale and Springs Have Beaches

Camp Helen, on the beautiful Gulf of Mexico, provided by Avondale Mills for its employees, is a spot anyone would be privileged to visit. Comfortable cottages, well-kept surroundings, fishing schooners, and an open-air recreation center for music and dancing are there for those who want it. About 400 people can be accommodated at a time, and trips for the families and friends of the mill's employees cost approximately $1.00 a day, everything included, except transportation. Many have cars, but for those who go by bus the round trip is $1.80 extra expense.

Springmaid Beach, owned and operated by Springs Cotton Mills for its employees, adjoins the State Park at Myrtle Beach, S. C. The clubhouse and cafeteria accommodate 400 people. Cottages are already completed for 120 and will eventually accommodate nearly 500. A 620-ft. pier adjoins the 1,000-ft. beach frontage. Expenses for a vacation here are nominal, about one-tenth the average cost at any resort hotel in the area.

Planned Tours Becoming Popular

Many other similar spots entice the textile-mill worker when vacation time comes around. But another type of vacation becoming increasingly popular combines city-tour, sight-seeing, and educational recreation. By bus, these planned tours for textile employees head for the big towns, and especially for the nation's capital. In Washington is a wealth of things to see and do. The usual course is the round of government buildings and historic shrines. But textile tourists from textile communities find a specialty list for them in offerings of the several museums. Two of the latter are internationally known in textile circles, and in them we trace textile history and its beginnings back many thousands of years.

The Textile Museum of D. C., founded by George Hewitt Myers, who is its president, is a "free enterprise" project, the result of one man's hobby and interest. The museum itself is an integral part of the Myers' beautiful home on S St., connected by passageways. The president, who is also curator of textiles, Gallery of Fine Arts, Yale University, and a member of Smithsonian Fine Arts Commission, has spent much of his life and a great deal of money collecting the Turkish, Persian, Cairene, and Chinese rugs and tapestries which through the museum he shares with the public. Fascinating pieces, each with a history, are displayed in each of the groups. One of the tapestries recently brought from Egypt is the largest ancient piece of Hellenistic tapestry known to be in existence. It measures 11x16 ft. and dates back to the 4th century B.C. The Egyptian dealer who found this rarity was so excited over it that he made his first trip to America to deliver it personally, and safely, into the hands of Mr. Meyers!

Displays are changed occasionally, of course, and the wareroom bulges with more than 600 rolled pieces in storage. A library of small swatches of ancient textiles, carefully mounted and labeled, is available for reference work. This beautifully designed home of ancient art and craftsmanship is one of the show places of Washington.

Textile Saga at Smithsonian

In the sprawling, ugly red-brick Smithsonian Museum, Arts and Industries Building, is a collection of the old and the new, each with its story of purposeful research and great attainment in textiles. There one may examine the miniature models of Richard Arkwright's spinning machine built in 1767, and James Hargreaves "Jenny" of 1770. One may gaze in awe at the original spinning frame built in America by Samuel Slater in 1790, and its mate, Slater's carding machine, and know that from those two crude but wonderful mechanisms America's great textile industry was born. There too is a cotton gin, a tiny thing, built by Eli Whitney before 1800. There is a throstle spinning frame and a twister built at Merrimack Co. in 1822 when New England's industry was in its early beginnings. There is a spin-ginner used on a Southern plantation in 1840. Cotton was dropped in one end of the machine, and the fiber ginned from the seed, carded and spun into yarn in one operation. There, too, is the first ring spinning machine, presented by Draper Corp.

Nearby is William Crompton's original patent model

(*Continued on page 188*)

Alemite "Friction Fighters" WENT TO WORK HERE!

SAVED: 2½ Hours "Downtime" Every Day

ADDED: 12½% More Production the First Year

ELIMINATED: Hazards of Lubrication

Safeguarding a huge Punch Press against the wear and tear of friction! It *once* was a time-consuming process – and a costly one – in a large Chicago plant. Climbing about the machine 4 or 5 times a day, it took the oiler a full 30 minutes *each time* . . . dangerous, hazardous work. Naturally, production had to be stopped. And the "shutdown" resulted in a production loss of one hour out of every eight!

Then, a trained Alemite "Friction-Fighting" specialist was called in to work with the plant engineers. After careful study, he recommended that an Alemite Mechanized Lubrication System be installed – and fully tested in its effect on production.

Since that time, the same press has run 20 hours per day – *week after week for fourteen months without a shutdown.* Production has been increased by 12½%. Lubrication time cut to an absolute minimum. And the possibility of accidents to the oiler completely eliminated.

You can get similar results! No matter what size or type of plant you operate, an Alemite Lubrication Engineer can show you dozens of ways of making worthwhile savings through more efficient handling of petroleum products. These are facts which you can readily confirm in your own time studies. The Alemite man will cooperate fully with your plant engineers in setting up a test. Contact your local Alemite Industrial Distributor, or mail coupon below – today!

ALEMITE

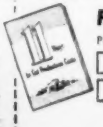
MEANS EVERYTHING FOR LUBRICATION

1. Methods 2. Lubricants 3. Equipment

Loading . . . transferring . . . applying! Alemite Mechanized Lubrication Methods save time, save work, keep lubricants refinery-clean from barrel-to-bearing.

For industry, Alemite Centralized Lubrication Systems add productive time to machines with faster, more efficient handling and application of lubricants.

A PRODUCT OF SW STEWART WARNER



FREE! New Booklet

Please send me:

☐ "11 Ways to Cut Production Costs."

☐ Include Facts on OIL-MIST—the amazing new system that atomizes oil, circulates it to bearings under pressure.

ALEMITE, Dept. J-72
1350 Diversey Parkway, Chicago 14, Ill.

Name .....

Company .....

City ..... State .....

TEXTILE Equipment NEWS

Automatic Terry Striper Knits Extra-Long Loops

An advanced innovation in jersey knitting, the Model LT/SA machine that knits long-loop terry stripes for beach wear and outerwear use, has been brought out by Supreme Knitting Machine Co., Inc., 105 Johnson Ave., Brooklyn 6, N. Y.

Loops can be adjusted for different lengths, and can be densely packed or widely separated by means of simple pattern-wheel jack arrangements. The resultant cloth is said to be close in quality to the finest woven terries and towelings, and yet has the wearability and style of fine jersey fabrics.

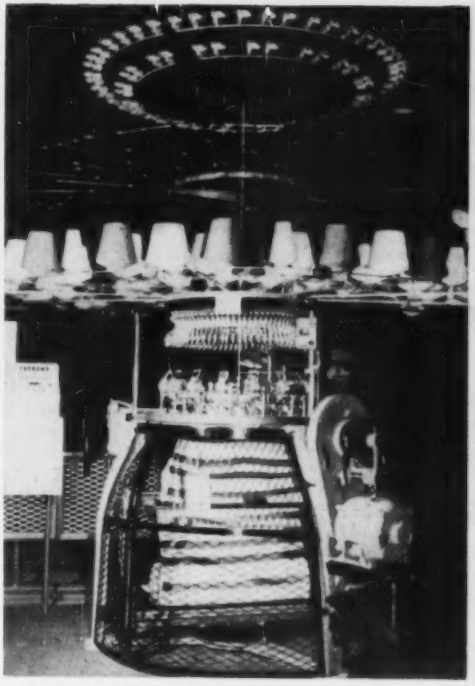
The new machine is built on a standard Supreme automatic striper frame. It uses 16 four-color striping boxes, eight stationary backing feeds, and produces up to 20 yd. per hr. of terry stripes and up to 30 yd. an hr. of single-color terry. The cloth from a standard 26-in. 18-needle-per-inch LT/SA machine is 60 in. wide after finishing.

The new long-loop striper has features that are standard on other spinning machines in the company line, including the revolving cylinder and take-up, stationary yarn stands, unit motor drives, Timken bearings, tripod construction, positive action, multi-disk clutch, three automatic idling handwheels, electric stop motions, and warning and locating lamps.

Other features include adjustable sinker and carrier rings, steady cone-plate bars, pig-tail double tie-ups for yarn cones, and a built-in thermal overload protection for the motor.

A wide range of fibers and yarn sizes is reported easily knit on this machine. A single unit, for example, can produce fabrics ranging in use from heavy-weight bathrobes to light-weight polo shirts. Colors at each feed are individually controlled by means of a simple design chain and internal cam arrangement.

The 25-in.-diameter, 18-needle-per-inch unit comes with an 80-end yarn stand, an 80-end tension ring, and 80-end double electric stop motion. Other diameters and cylinder cuts, with corresponding number of feeds, are also available.



"SUPER-LOOP" TERRY STRIPER knits long but tight loops that are adjustable for different lengths and densities by means of a pattern-wheel jack arrangement. Striped-fabric production can be 20 lb. per hr.

Electric Stop Motion for Any Type Cone Creel

An electrically-operated creel stop motion that can be adapted to any type of cone creel has been introduced by Benninger Engineering Co. Ltd., Uzwil, Switzerland. The new stop motion is almost totally enclosed and can be used in conditions of dust and fly, which in many installations hinder the operation of an electrical motion.

The new device features rising stop levers that are held in a depressed position by the slightest yarn tension and that leap upwards when an end breaks. The levers are not spring loaded but are counterweighted to eliminate variation in the amount of tension required to keep them in the operating position.

Yarn guides are in the form of porcelain supports. In conjunction with them are used open-ended yarn guides that make threading-up easy and rapid, since all that is required is for the yarn to be laid across the guides and in the forks.

The fulcrums of the stop levers and the contact are housed in an almost totally-enclosed aluminum tube. This arrangement allows for instantaneous operation even in dust-laden atmospheres.

Another feature of the new creel stop motion is the locking in the inoperative position of any stop levers that are not required. All that is necessary is for the un-

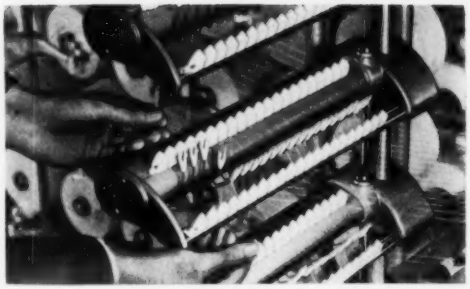
used stop levers to be depressed while a switch on the side of the unit is put in the running position. These stop levers are then rendered inoperative electrically.

The same switch on the end of the bank of stop levers puts the entire bank out of commission when it also is not needed.

Red signal lamps are standard equipment on each bank of levers to indicate where breakage has occurred. The lights themselves are vibration-proof.

The automatic electromagnetic locking device with which each unit is equipped, simultaneously with the stopping of the warper in the event of an end break, cuts off the supply of current to the other units and thus prevents other signal lamps from lighting up when the warp ends are slack at a stop.

The new electric warp-stop motion can be fitted to any make of creel, the separate units being mounted by a simple clamping arrangement on a vertical tube that can be fitted without difficulty to the front of the creel.



RISING STOP LEVERS are V-shaped, and in the top bank are held in a depressed position by slight yarn tension. A switch on the end of the bank is in the operating position. In the center bank the whole unit has been temporarily taken out of operation by the change of position of the switch.

New Dye Reel Has V-Bars To Provide Gripping Action

A dyeing reel that by means of V-bars eliminates the need of providing traction by covering the dye reel with cloth, canvas, or rubber has been perfected by James Hunter Machine Co., North Adams, Mass. Called the Hunter No/Lap reel, it can be installed on any make dyebeck.

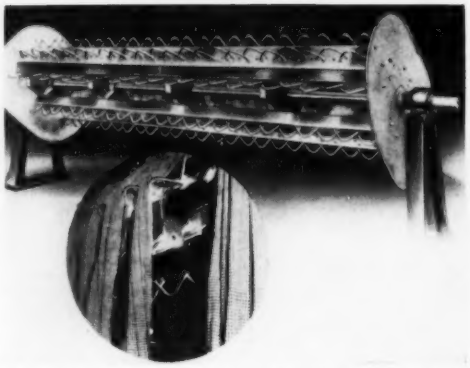
Many cotton and rayon fabrics will not pull properly on conventional stainless-steel reels. Usual practice calls for the reels to be wrapped with cloth or duck, a procedure expensive both in material and labor costs. When a reel is lapped, the dyeing machine is no longer all stainless steel, and thereby loses its advantage of being quickly cleaned.

What makes the No/Lap reel unique is said to be the arrangement of inverted V-bars that give a gentle but firm gripping action to each strand of cloth in the machine. Two rows of these bars are adjustable so that goods can be run continuously in one strand during the dyeing operation.

Bars can be raised and lowered to give proper attention to each strand of cloth. On the ends of the reel they can be further adjusted to take care of the cloth passing from one end of the reel to the other, as in spiraling.

The new reel has been in production use on cottons, synthetics, and blends at both United Piece Dye Works, Lodi, N. J., and Cliffside Dyeing Corp., Paterson, N. J. United Piece Dye has installed 16 of the reels in its new dyebecks going into the new Charleston, S. C., plant. It has also ordered 15 additional No/Lap reels for the Lodi plant.

Cliffside Dyeing has also a planned replacement of reels in its present set-up. Two other firms have also taken delivery of their first No/Lap reels.



NO/LAP REEL is so constructed that cloth passes between the V-bars easily to stay separated. The bars are adjustable to eliminate tight or loose strands.

Microtome Cuts to Five-Millionths of an Inch

An ultra-high precision microtome, designed to cut sections of natural and synthetic fibrous materials to a thickness of five-millionths of an inch, has been developed at Battelle Memorial Institute, 505 King Avenue, Columbus, Ohio. The new instrument is expected to allow fullest use of the electron microscope for research on synthetic and natural fibers because the electron microscope requires specimens of the order of five-millionths of an inch.

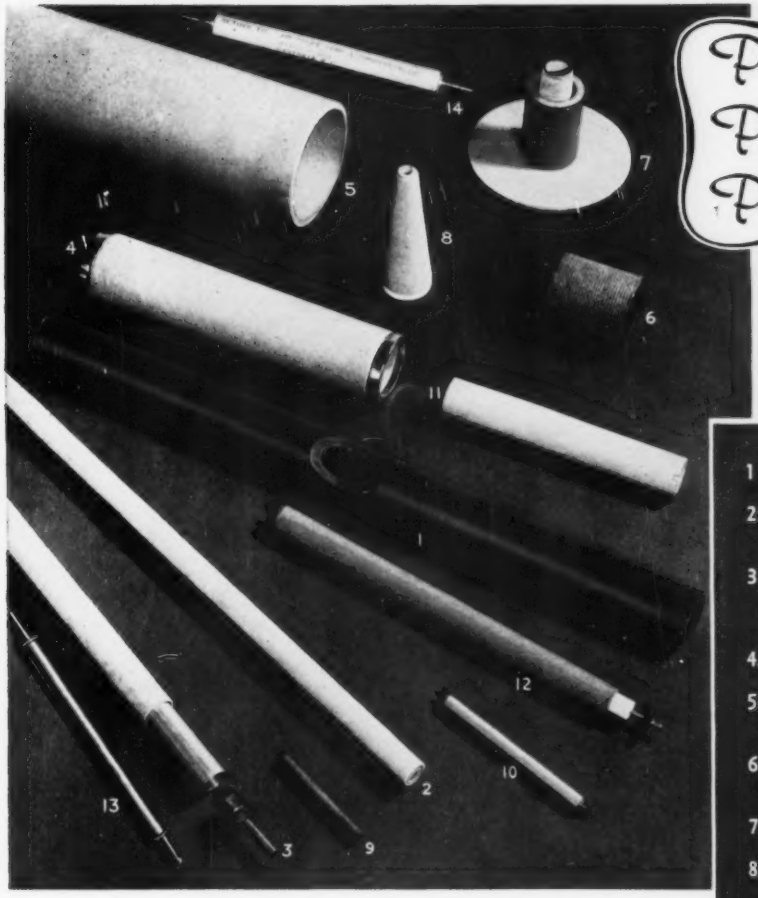
Uniform thicknesses are obtained in the cuttings. The new microtome eliminates the problem of bearing play by avoiding all bearings or ways in its construction.

Motion of the specimen across the knife is provided by a system of cantilevers. These consist of a pair of broad, flat, steel springs or blades with extremely high rigidity in the plane of the blade but adequate flexibility in the plane of motion. When deflected and released, the motion is highly reproducible.

CANTILEVER MICROTOME developed at Battelle Institute can cut fiber sections to a thickness of five-millionths of an inch.

Serving The Textile Industry Since 1899

SONOCO *Textile Specialties*



Precision Paper Products

FOR THE TEXTILE INDUSTRY

1 Tie-in Tubes
2 Card Clearer Roll Covers
3 Topping (Thompson) Rolls and Covers
4. Pin Drafter Core
5 Loom Beam Repair Tubes
6 Spooler Cheese Cores
7 Rayon Cake Forms
8 Cork Covered Cones
9 Temple Roll Cores
10 Self-Weighted or Floating Roll Covers
11 Roving Tubes
12 Underclearer Rolls
13 Aluminum Ball Warp Mandrels
14 Ball Warp Tubes

If it's a problem in textiles that paper can solve, you can depend on SONOCO for exhaustive research and development. For over 50 years, SONOCO specialty items have kept pace with the ever-changing textile industry by providing greater efficiency, greater speed or reducing man hours and cost of operation.

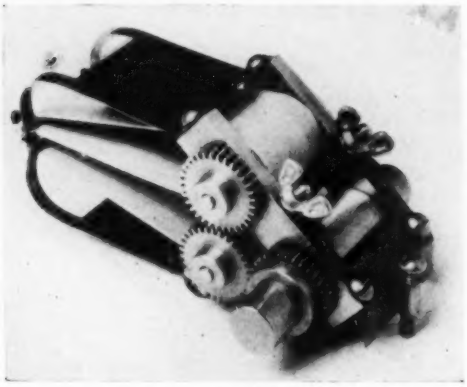
sonoco — "Round The World" — "Paper Carriers" — REG. U.S. PAT. OFF.

SONOCO PRODUCTS COMPANY

MYSTIC CONN. | HARTSVILLE S. C. | BRANTFORD ONT.

DEPENDABLE SOURCE OF SUPPLY

Long-Draft Aprons Quickly Detachable as a Unit



DETACHABLE LONG DRAFT APRON, usable on all fibers, requires less than 20 sec. to replace as a unit whenever a change is necessary. Adjustable and positively driven, the individual units require no change in the motor drive of the frame.

Complete, detachable, individual long-draft aprons that weigh only 5 oz. each have been developed by Macdonald & Sons, Box 706, Providence 1, R. I. Atkinson, Haserick & Co., 211 Congress St., Boston 6, Mass., is selling agent. Two full spinning frames are running with the unit; one at Allendale Co. in Providence and the other at Lymansville Co. in Lymansville, R. I. Both companies are enthusiastic over the new aprons and claim that the quality of the yarns produced is excellent.

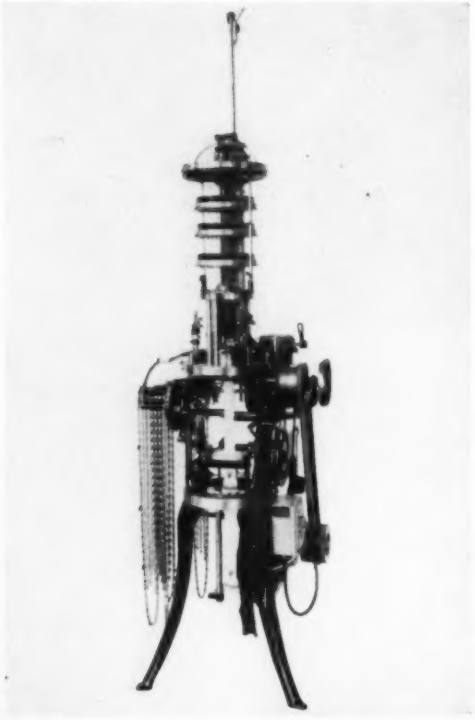
Important features of the detachable aprons are: (1) gears and tension roll assure synchronized apron travel, (2) tension bars snap in quickly, (3) spring-steel apron supports give uniform apron tension, (4) adjusting screen assures straight drafting, (5) all bearings are nylon, (6) double-sealed ball bearings are at every carrier stand, (7) hook bearings are operated by the regular rack shaft, and (8) the entire unit is removable by the loosening of two thumb screws.

The roll shaft has a mortise and tenon joint for each spindle so that to make any change in the machine, each spindle can be handled in a matter of seconds instead of hours. If an apron has to be removed, one simply unscrews the unit, lifts it out, puts another one in, and goes on his way in from 17 to 20 sec.

The aprons are positively driven, but no change is required on the motor of the spinning train. The screw in the middle at the back of the unit adjusts the height of the apron so that it will come up as close as needed to the bite of the front rolls.

Patents have been applied for.

Multi-Design Ribber for Fancy-Pattern Mittens



MULTI-DESIGN WRAP PATTERNS can now be knit into true rib fabric on this new ribber designed for the manufacture of fancy-pattern rib mittens.

A new multi-design ribber, Model S-49G, which manufactures wrap patterns in mittens in true rib fabric, has been introduced by Fidelity Machine Co., Inc., 3908 Frankford Ave., Philadelphia 24, Pa. The machine allows a different color to be wrapped on every needle; so with its 25-step pattern mechanism, the machine gives a virtually unlimited scope in the choice of fancy designs.

With certain types of designs, it is possible to set up three different patterns on the machine at once, selecting the suitable one as needed for the day's production.

A five-color yarn selector and knot-tyer unit operates from a stationary cone supply and allows the choice of five different color stripes in any sequence. A tuck mechanism provided for shaping the mitten properly is actuated by a pattern chain.

Wrap yarns are held on compact nylon plastic spools that are easily rewound and hold sufficient yarn to last several shifts.

Mills using the ribber so far have found that the most popular mitten construction consists of a cotton liner and a wool outer layer, with a pattern such as a small animal or figure in the cuff, and stripes in the cuff and hand. With a cotton liner it is not necessary to trim away the float thread of the pattern yarns. Thus, exclusive of cutting and sewing, the entire mitten can be made in one operation.

The new multi-design ribber comes with electric stop motion, is available in a full range of diameters, and is capable of speeds up to 110 rpm. The take-up mechanism includes cut-tooth steel take-up gears. The machine may be fitted with a welt and selvage welt.

Individual motor drives are available.

Permanent Straightness

At every point where straightness is important — butt, shank, stem and beard — Textile Spring-Beard Needles are straight and true. And Textile Needles remain in perfect alignment through every high-speed knitting operation.

Straightness is one of the many advantages you get through Textile's quality controls — automatic and electronic. A special steel formula, proper tempering and the careful balancing of needle resiliency and needle length result in longer-lasting needles, better performance, lowered production costs.

TEXTILE MACHINE WORKS, READING, PENNA.

Textile

SPRING-BEARD NEEDLES

For Full-Fashioned Knitting

For Tricot Knitting

30% Lighter Plastic Cones Cut Jute-Winding Costs

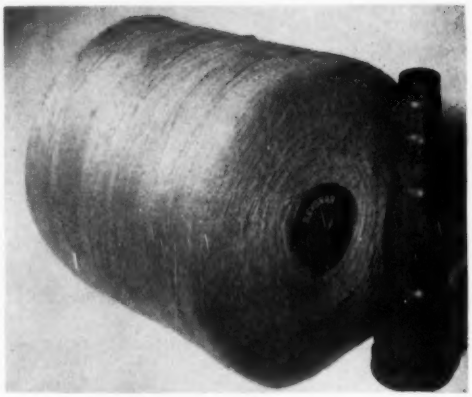
Rubber-phenolic cones made from resinous material manufactured by General Electric Chemical Div., Pittsfield, Mass., and molded by Jacobus Plastic Co., Jacobus, Pa., are estimated after a two-year run at Revonah Spinning Mills, Inc., Hanover, Pa., to last at least twice as long as ordinary wooden cones.

In service at the mill, 20 lb. of jute is wound on each cone, with 16 of them making a bale. The empty cones are returned in the original shipping container, a burlap bag. No special protective wrapping is necessary.

With the machined wooden cones formerly used, chipping and splitting frequently resulted from shipping in the burlap bag. The rubber-phenolic cone takes such punishment and gives much longer service, the mill says.

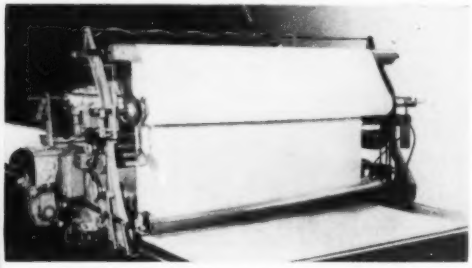
An additional advantage of the new cone is the tension that it permits. Slippage on runouts, which often result in snarling with consequent downtime, has been reduced to a minimum, thanks to the anti-slip finish on the rubber phenolic cone.

Being 30% lighter in weight than wooden cones, the plastic cone also gives cost savings in transportation of yarn from mill to mill.



PLASTIC CONES made from rubber-phenolic resins have reduced jute-yarn slippage in processing, as well as cone chipping and splitting, during two years' service at Revonah Spinning Mills.

Static Eliminator and Tape Rewind Ease Tricot Spreading



TRICOT-FABRIC SPREADING is made easier and speeded up by means of static eliminators and measuring tape rewinders that are provided on this electric tricot-spreading machine.

Static eliminators consisting of a neutralizer bar, cable, and transformer that remove electric static from tricot knit fabrics and facilitate the spreading of them for cutting are now being incorporated on electric tricot spreading machines manufactured by Cutting Room Appliances Corp., 45 West 25 Street, New York, N. Y.

The electric tricot spreader handles double-folded tricot materials and utilizes positive feed rolls on the front of the machine to insure proper tension in the goods. The neutralizer bar, containing multiple pins, is set on the machine just in front of the roller and pulls the electric static from the cloth as the machine rides along. The fabric is thus easily controlled and behaves, so that the cloth spreading operation can be speeded up. A guard protects the pins against damage.

The static eliminator is optional for present machines in either wide or narrow models, and is also available for CRA tricot spreaders already in use.

Another item on the machine of interest to organizations handling tricot fabrics is the measuring tape rewinder. Tape is ordinarily wound into the piece-goods roll by the mill to indicate yardage, and if not removed leaves a bulge in the fabric as spread on the cutting table. Removal by hand is a time-consuming and annoying job, slowing down the spreading operation.

The measuring tape rewinder automatically takes up the tape as the machine rides along, winding it on a bar located on the back of the machine.

The rewinder is standard equipment for the CRA electric tricot spreader.

Hy-Du-Lignum Picker Sticks Available in the U. S.

Picker sticks and other picking-motion accessories, called Hy-Du-Lignum products and made of laminated birch or beech veneers, are now available in the United States from U. S. Bobbin & Shuttle Co., 135 Bradford St., Lawrence, Mass.

The Hy-Du-Lignum process embodies the building up of packs of veneers, in between each one of which is placed a thin sheet of resin. This sheet, or film, is used as the binding medium, and not for purposes of impregnation of the wood. The laminated material thus retains much flexibility and elasticity.

In the picker sticks, a variation of density is given throughout the length of the stick. There is greater density, and thus greater impact resistance, at the upper end of the stick; and lower density, with the needed resilience, lower down on the stick. The end of the stick, being unimpregnated, lends itself more readily to the insertion of screws.

The new picker stick will break, as it should, in a box hang-up, in time to prevent breakage of other parts of the loom, but it will not break under other circumstances, according to the manufacturer.

U. S. Bobbin & Shuttle stocks and distributes Hy-Du-Lignum parts for all American looms except Crompton & Knowles, which latter company has its own distribution system.

WALKER
Frames in Your Weaving Picture!
Walker Heddle Frames are designed to give you quick, easy warp adjustment.
Made from carefully selected, straight grained wood, they have an especially smooth, moisture proof finish to give lint-free operation and long service life.
The full line of hardware is cadmium plated to resist rust and designed to give easy adjustment.
Use Walker frames in your weaving picture.
WALKER DIVISION OF D DRAPER CORPORATION
HEDDLES • HEDDLE FRAMES • REEDS
PHILA., PA.

Instrument Checks Moisture Performance of Slashers

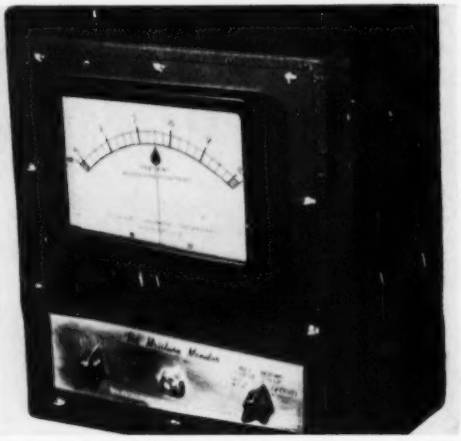
A moisture indicator has been developed by Strandberg Engineering Laboratories, 416 West Market Street, Greensboro, N. C., that not only shows the moisture content of the warp coming off the slasher, but also can be used to provide instantaneous indications of various troubles encountered in slasher operations. To obtain this latter information, the detector element of the instrument must span the entire width of the warp.

Utilizing the relation between moisture content and electrical conductivity of materials, the instrument requires the use of a metallic detector insulated from the frame of the slasher, but in contact with the warp.

Any trouble that causes a disruption in the smooth flow of the warp is indicated by an abrupt movement of the indicator toward the WET end. Laps occurring at any point, for example, cause immediate indications of this kind. Difficulties encountered in squeezing at the selvages can also be detected in this manner.

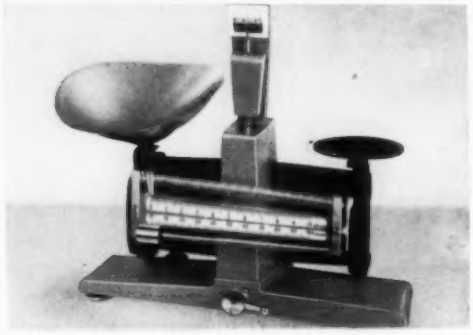
Maintenance on the new instrument is negligible. The inherent simplicity of the instrument, together with the DRY, WET and NORMAL check provisions available on the front panel, eliminate the need for routine maintenance. Each component incorporated in the instrument is operated well within its rated value, thus providing extremely long life and essentially no maintenance problems.

The instrument operates continuously.



NEW MOISTURE MONITOR, Model M-100, provides general information regarding slasher performance. Calibrated in terms of moisture content, the instrument can indicate slashing troubles such as laps, blanket defects, imperfect squeezing, and wet streaks.

New Torsion Balances Cut Weighing Time 80%



SPEED AND ACCURACY of this torsion balance is said to be outstanding. A new oil dash pot cuts weighing time to one-fifth that ordinarily required.

Wear and the resulting inaccuracies of weighing have been practically eliminated in a new line of laboratory balances developed by Torsion Balance Co., 92 Reade Street, New York, N. Y. The balances are not susceptible to the inaccuracies caused by dust and dirt as are knife-edge fulcrum balances.

A new oil dash pot that cuts weighing time to one-fifth that formerly required is featured. In addition, a wide range of graduated beams has been designed for ease of reading and speedy operation. And the slide weights on the graduated beams will not cock and introduce errors. The entire weighing mechanism is virtually one piece, with no loose parts to cause faulty operation.

The new balances are available with round pans, flat pans, or scoops. Provision has been made for taring containers up to 16 oz. on the larger balances and up to 8 oz. on the smaller balances.

The models in the line include IL-2, LL-4, IL-6, and IL-8. They have 5- and 10-lb. capacities and weigh 22 and 26 lb.

The balances are finished in a smooth, baked enamel.

Roller-Chain Sintered-Metal Bushings Are Oil-Impregnated

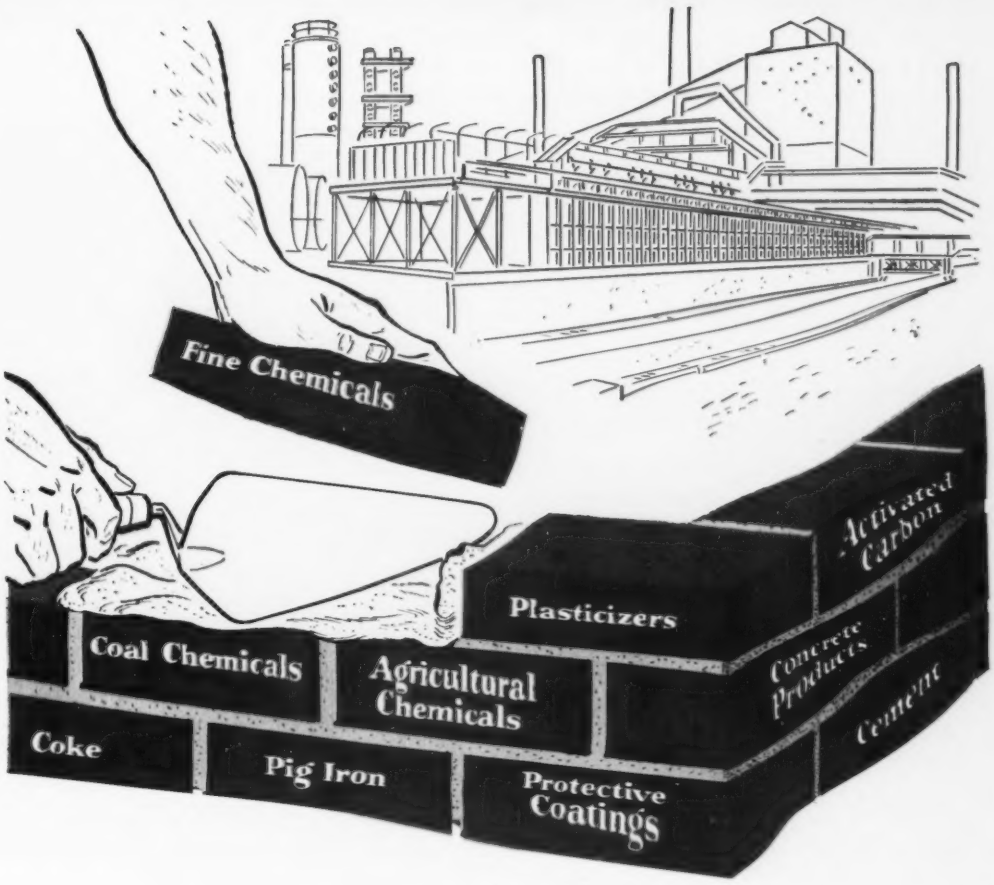
A special roller chain incorporating oil-impregnated sintered-metal bushings has been introduced by Whitney Chain Co., 237 Hamilton St., Hartford 2, Conn., after four years of research and development.

The new oil-impregnated sintered-bushing chain requires little or no lubrication and provides a chain drive that operates efficiently where conventional lubrication methods are either not possible or desirable. A marked increase in service life on applications where normal lubrication is not available has been indicated by laboratory tests and field installations since 1948.

The new chain is expected to open up new fields of use for roller chains in areas previously restricted to other methods of power transmission. In one test where a ⅜-in.-pitch oil-impregnated sintered-bushing chain and a ⅜-in.-pitch standard roller chain were run under a 10-hp. load at 1,900 rpm., after 20 hours of operation the oil-impregnated sintered-bushing chain showed a wear of but 0.08 in. while the ordinary roller chain, pre-lubricated in accordance with the best practice, showed wear of 0.38 in. An increase of several hundred percent in anticipated service life is thus expected for the new chain.

The textile industry has, wherever possible, avoided the use of drives requiring external lubrication because of the possibility of damage to fibers or finished fabrics by oil spotting; but now the sintered-bushing chain drives will be applicable in almost any situation.

Textile applications of the new oil-impregnated sintered-bushing chain will be subject to engineering approval by Whitney Chain Co. For the time being, production of the new sintered-bushing chain will be limited and restricted to several sizes.



Building to a Basic Plan

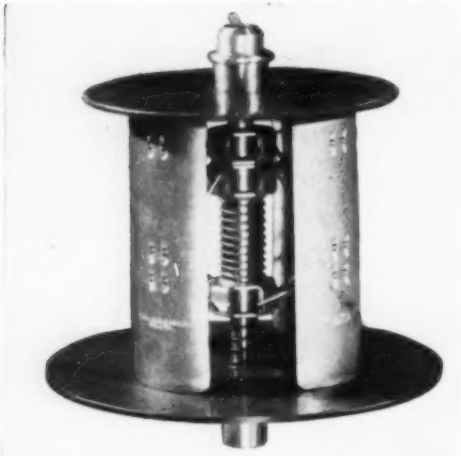
THE Pittsburgh Coke & Chemical Co., through its recently formed Fine Chemicals Division, will soon offer the textile industry a broad family of high quality dyestuffs.

The production of dyes fits ideally into our basic and integrated operation in two important ways. First, we are already producing the intermediates from which a great many dyes are made. And second, our basic position enables us to closely control and maintain the high quality and purity of Pittsburgh Dyestuffs *from coal to finished colors.* This guarantee of quality will be backed by another *basic* advantage—assurance of prompt shipments and continuing supplies. In dyestuffs, as in the products of our other integrated divisions, it will pay you, in every way, to *buy basic . . . buy Pittsburgh.*

PITTSBURGH
COKE & CHEMICAL CO.
Grant Building - Pittsburgh 19, Pa.

WBD 4238

Rayon Cake Holder Has Adjustable Tension



SELF-CENTERING CAKE HOLDER with adjustable tension has been put on the market by Steel Heddle Mfg. Co., 2100 W. Allegheny Ave., Philadelphia 32, Pa. Made of aluminum and steel, it is rust proof. Its top and bottom plates are of unbreakable plastic. Its operation is said to be so simple that only one hand is required to gain the productive speed in the handling of cakes that is so necessary today.

New Flat-Bed Sewing Machines Have Improvements

Additional new styles of the 50,000 Series flat-bed machines are now available from Union Special Machine Co., 402 N. Franklin St., Chicago 10, Ill. The new styles include the 51,100 BP, the 52,100 BC, the 52,700 BM, and the 51,700 BL.

Each of the new machines has advanced features and improvements. Most important are: (1) automatic lubrication, wherein the filling of only one reservoir provides complete lubrication for the entire machine; (2) antifriction bearings in the feed lift, looper avoid, and feed drive, permitting greater speed, smoother operation, and less wear; (3) new seize-resistant main bearings that provide an important safety factor to prevent "freezing;" (4) new smooth taupe finish that is less fatiguing to the eye and extremely easy to keep clean; and (5) a coiled spring, in place of the cantilever-type presser spring at the top of the machine, permitting precise adjustment to apply pressure directly to the presser foot.

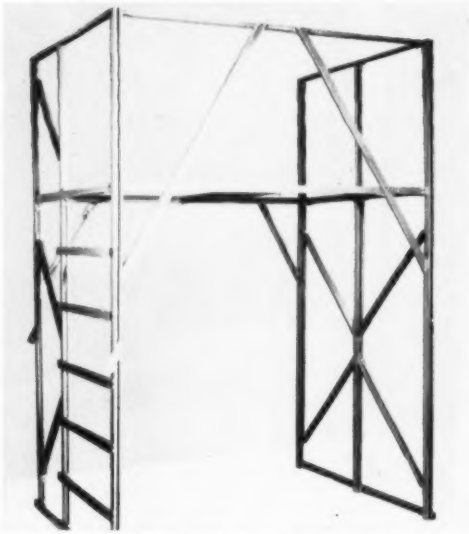
The style 51,100 BP machine is a new improved single needle machine for seaming large and medium-sized bags made from medium and heavy materials. It has a stitch range from 3½ to 7 per in.

The style 52,100 BC machine is a streamlined two-needle machine for cording operations on light-weight woven and knitted fabrics, without cord. The stitch range is from 10 to 18 per in.

The style 52,700 BM machine is a three-needle machine for attaching elastic bands ⅜ to 2 in. wide, in long lengths, garment lengths, or with ends joined, to knitted garments. Its stitch range is from 14 to 20 per in.

The style 51,700 BL machine is a streamlined two-needle machine for folding and attaching buttonhole facings to knitted undergarments in one operation.

Basic Steel Framing Has Many Potential End Uses



PLATFORM SCAFFOLDING made of Mult-a-Frame can be built to any height or length as needed by the mill in its maintenance program. The frame components can later be separated with an ordinary wrench and built up again into racks, hangars, pipe supports, work benches, or storage shelves as needed.

A new, steel, framing material called "Mult-a-Frame" that consists of three basic units that can at any time be dismantled, adapted, or converted (without scrapping) to meet new and different uses has been put on the market by Ainsworth Mfg. Corp., Dubois and Franklin Sts., Detroit 7, Mich.

A mill need not scrap "Mult-a-Frame" materials because there is no mailing, drilling, or welding. Standard lengths are available that are cut with a saw and assembled with a common wrench. Dismantling with the same wrench is easy and quick if one wishes to use the material for new uses or to store the units away for future use.

The fully-locking framing material provides "skyscraper" strength without bulk, and with only half the weight of angle iron. It consists of three basic units: channel frame, spring-T-bolt, and safe-locking fitting.

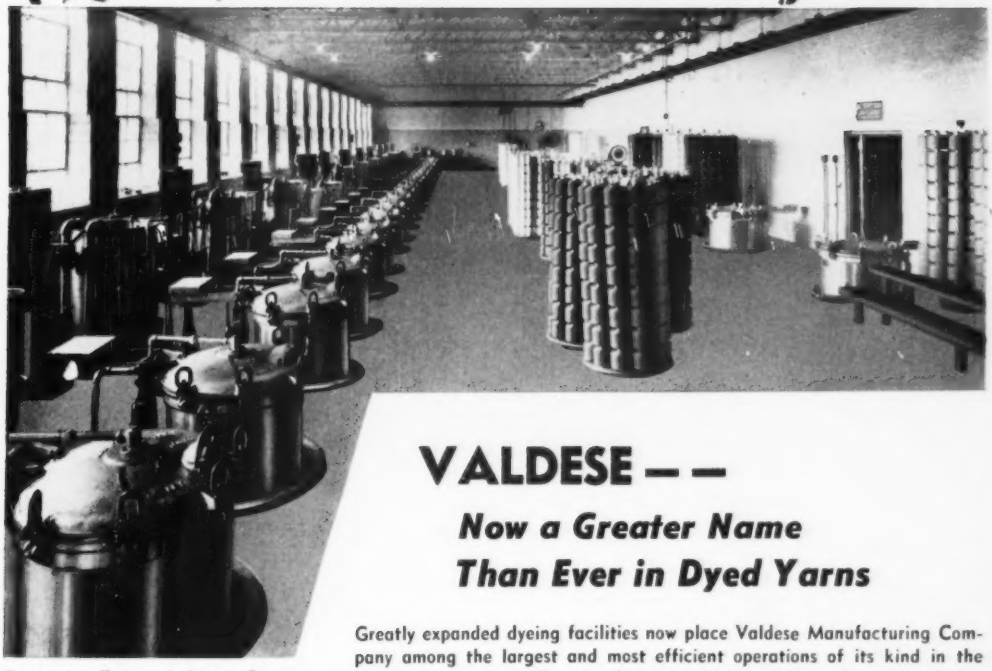
Special-design units and complete layouts for entire plants are available from the manufacturer. For these orders, the material is cut to specifications and shipped ready for assembly by the customer.

Improved Check Strap Features Satin Finish

The Bicut check strap, a new check strap with a smooth satin-like finish, has been developed by J. E. Rhoads & Sons, 39 N. Sixth St., Philadelphia 6, Pa., to permit more efficient checking action on a loom picker stick.

The new Bicut "hairless" strap is also said to be stronger because the leather is compressed more than usual and so results in a more dense accumulation of leather fibers in the given area, as designated by the thickness specifications. Thus a very efficient friction surface results.

from QUALITY AND SERVICE—Growth



Recent installation of Gaston County Dyeing Equipment at Valdese Manufacturing Co., Valdese, N. C.

VALDESE — —

Now a Greater Name Than Ever in Dyed Yarns

Greatly expanded dyeing facilities now place Valdese Manufacturing Company among the largest and most efficient operations of its kind in the world—the result of 25 years of superior dyeing ability and superior dyeing equipment.

SERVICE . . . The new 24-kier battery of 350-pound machines, turning out well over 100,000 pounds of dyed yarn weekly . . . and warehousing facilities for one-half million pounds of yarn, assure Valdese customers of prompt delivery in all counts and descriptions of dyed yarn.

QUALITY . . . Specialists in dyeing soft-twist yarns for the knitting trade, Valdese is noted for the brilliance of its colors. Valdese directs, develops, vats, napthols, bleached and bleached base pastels enjoy a top reputation with men in the trade.

Valdese is equipped throughout with Gaston County machinery, and has been for more than 25 years . . . a selection based on continued dyeing satisfaction.

GASTON COUNTY DYEING MACHINE CO.

STANLEY, N.C. U.S.A.

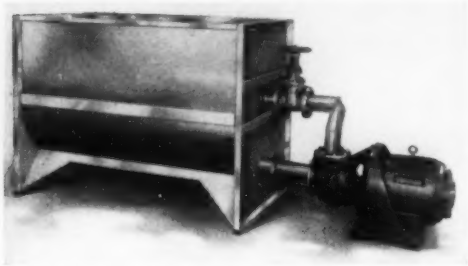
Albert R. Breen
80 East Jackson Blvd.
Chicago, Illinois

Gaston Co. Dyeing Machine Co.
Terminal Bldg., 68 Hudson St.
Hoboken, N. J., G. Lindner, Mgr.

The Rudel Machinery Co., Ltd.
614 St. James St., W. Montreal
137 Wellington St., W. Toronto

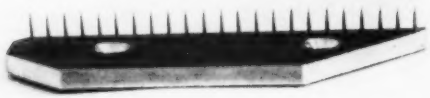
For more information, write direct or use Reader Service post card.

New Dyeing Machine For Fine Knit Goods



TRICOT FABRICS as well as marquisettes and laces can be pressure bleached, boiled off, and dyed in this unit that can handle 4,000 yd. or more in one operation. The machine circulates the solution through the material at a constant rate up to 1,000 gal. per min. Temperatures and pressure are under control at all times. The unit is manufactured by Burlington Engineering Co., Inc., Graham, N. C.

New Steel Pin-Plate Pins Will Not Bend



PINPLATE manufactured by Southern Textile Works, 202 South Towers Street, Anderson, S. C., is of brass, but the pin is a special type of heat-treated stainless steel that will not bend. The holes in the plate are drilled to the specified angle, depending upon the type of cloth and the machine on which it operates. Pins are installed in the plate by a special process and will not work loose.

The pinplate is used on pin tenter machines of all types, although most of the company's work to date has been on Morrison plates.

Advantages of the new pins and pin-plate arrangement include fewer rejects and seconds and less down time of the machine. Finished fabric savings in a few days pay for the installation of the new plates.

Plastic Filling Bobbin Usable With All Yarns

A new all-purpose synthetic automatic-loom bobbin has been perfected by American Paper Tube Co., East School and Hazel Sts., Woonsocket, R. I., and Greenville, S. C. It incorporates a combination of features that allows mills to secure maximum efficiency of performance with all kinds of yarn on the same bobbin.

A new virtually indestructible tip has been added to the laminated barrel, which in turn has the strength to withstand the compression of nylon and other hard-twisted yarn and is impregnated so as to be unaffected by the treatment of yarns requiring conditioning. The barrel surface, at the same time, is suitable for the proper retention and free delivery of soft-twist and delicate-filament yarns.

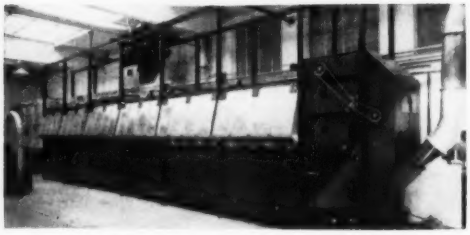
The new thermosetting-plastic tip is incorporated as a homogeneous unit with the barrel by means of a molding process called "Plasti-Weld," which is also used to form the base of the bobbin, with its three continuous metal rings molded into the plastic.

The molding process gives a high precision of alignment which, with continuous style of rings, is said to give positive protection against mis-position in the transfer.

The new bobbin is at present available for the No.-5 head size in 7⅞- and 8-in. lengths, with or without ferrule.

ALL-PURPOSE FILLING BOBBIN is made of plastic material and can withstand the compression of nylon yarns and the degrading action of yarn-conditioning solutions. It is so far available in 7 3/8- and 8-in. lengths for the No.-5 head size.

All-Fiber Blend Box Developed in Switzerland



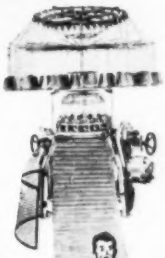
A NEW BLEND BOX designed for the blending of natural and synthetic fibers by means of the "sandwich" technique before opened stock goes to the picker has been developed by J. J. Rieter & Co., Ltd., Winterthur, Switzerland. The blend boxes will be available from American Rieter Co., 577 Kearny Ave., Arlington, N. J.

The blending system delivers fibers through a condenser and a traversing apron into a long blend box, which in turn dumps the mixed stock periodically into a second blend box below. From the latter, the fibers are taken by means of a vertical spiked lattice. Practically an "automatic sandwich machine," the unit so far can handle fibers up to 4 in.

The unit is priced at approximately $7,000.

A KNITTER'S DREAM COME TRUE !!!

SUPREME'S
Amazing, New
Super-Loop Terry Striper!



Model LT/SA*

New, Long-Loop Terry Knit With Automatic 4-Color Stripes!

Opens A Gold Mine Of New Sales Possibilities In Beachwear, Outerwear and Sportswear!

Supreme's Most Terrific Multi-Fabric Sales-Knitter!

Snag-resistant Super-Loops Easily Adjustable For Different Lengths and Densities!

Uses Wide Variety of Natural and Synthetic Yarns For Consumer-appealing Texture Variations!

Variable Striped or Solid Terrys — Light or Heavy Weight — PLUS — The Entire Range Of Model SA Jersey and Automatic Stripes!

Knits Wide Range Of Yarn Sizes For Weights Varying From Heavy Bathrobe Terry To Light Polo Shirt Fabric!

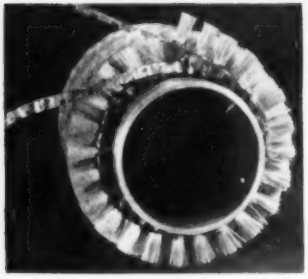
Easily Convertible, On The Job, Into Any Machine In Supreme's Famous Striper Line. Produce The Entire Supreme range of patterned, striped or pattern-placer cloth!

Up To 20 Yds. Per Hour Striped Terry. Up To 30 Yds. Per Hour Single Color Terry. As An Automatic Jersey Striper—Up To 40.5 Yds. Per Hour Plain Jersey and Up To 25 Yds. Per Hour Automatic Stripes.

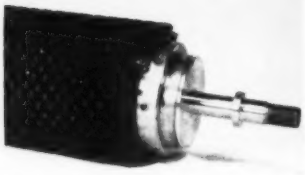
Pinch yourself and then write for the complete story and sample swatches.

SUPREME
KNITTING MACHINE CO., INC.
107 JOHNSON AVE. BROOKLYN 6, NEW YORK, N. Y.
Southern Representative and Showroom:
The Wallace Co., 711 S. Tryon St., Charlotte, N. C.

NEW *Dyes* AND *Chemicals*



Metal Bands and Tufted Bristles . . . .



Finish Like This and Give . . . . . .

A New Tufted Type Metal-Core Brush

A metal-core brush that has its tufted bristles bound onto the core in slotted bands of stainless steel or copper has been put on the market by Industrial Brush Co., Inc., Little Falls, N. J. This type of tufted construction has proved particularly efficient for blanket washing, raising the nap on woolens and worsteds, and other purposes requiring the additional stiffness that such tufts give.

The closely wound metal bands and solvent-resisting cement in which the tufts are set make the brush impervious to moisture, and at the same time allow water to flow freely between the tufts to get out any matter that penetrates the dense brush surface.

The bristle is renewable when worn down.

Full Visibility for Operator Of This Fork Truck

An improvement on the ordinary sit-down-type fork trucks that allows the operator to change his sitting position for either forward or reverse operation has been developed by Lewis-Shepard Co., Watertown, Mass. With the "Standrive," the operator can trail his load with full

(*Continued on page 222*)

New, Better Blue For Acetate

Celliton$_{RD}$ Fast Blue AF Extra Conc., developed by General Dyestuff Corp., 435 Hudson St., New York, is a dispersed, direct-dyeing, anthraquinone-type dyestuff manufactured for dyeing fast-to-light blue shades on acetate with good (3) resistance to atmospheric fading, or better resistance than that afforded by the commonly used fast-to-light acetate blues. It is also recommended for dyeing medium-blue shades on nylon with good fastness properties; it is not offered for printing.

The blues on acetate obtained with Celliton Fast Blue AF Extra Conc. are closest in shade to those obtained with Celliton Blue GA Extra CF. In fastness to light and fastness to atmospheric fading, however, Celliton Fast Blue AF Extra Conc. is said to be much better than the Celliton Blue GA Extra CF. Full dyeings of the AF brand display excellent-to-maximum (7-8) light fastness and good (3) resistance to atmospheric fading, according to the makers. Such superior fastness to light for a reasonably bright, rather greenish blue gives this dyestuff an important place in dyeing when the best light fastness is desirable for such purposes as draperies, upholstery, and decorative fabrics. Good fastness to atmospheric fading is also a favorable property where permanence is required. A fastness to light and a fastness to gas fading that are superior to those of the ordinary acetate blues are also advantageous in dyeing either bright or pigmented, filament or spun, acetate appearing alone or in combination with other fibers for such clothing fabrics as those for suits, shirts or slacks.

New Monomer Ready For Trial Use

A new acrylic monomer, Acrylamide, made by American Cyanamid Co., New York, is now available in trial lots.

Acrylamide is a crystalline product with comparatively long shelf life and easily-gained polymerization and copolymerization.

Potential applications for the polymers and copolymers of Acrylamide include the preparation of adhesives, dispersing agents, thickening agents, surface coatings, synthetic leathers and rubbers, and finishing agents for paper and textiles. Modification of acrylonitrile fibers by the incorporation of Acrylamide is said to produce an approved affinity for acid dyes.

Acrylamide's reactive double bond readily permits the addition of a variety of compounds such as alcohols, amines, mercaptans, and dienes. It is reactive to formaldehyde, forming methylolacrylamide or methylenebisacrylamide. This general reactivity makes Acrylamide of value as a chemical intermediate as well as a monomer.

New Dulling Agent For Rayon Is Dispersible

A new titanium-base dulling agent for viscose rayon and acetate fabrics has been developed by Dexter Chemical Corp., Boulevard P.O. Box 1, New York.

Said to be effective on whites and colors, Dextrol Duller #3925, a high titanium-content dulling agent, is particularly recommended for use with urea formaldehyde resins. Added directly to the resin mix, it readily disperses throughout the solution. Storage life is good. Finishers of acetate and viscose marquisettes report excellent results.

Hosiery Transfer Solvent

Laurel Soap Manufacturing Co., Inc., Philadelphia, Pa., has completed mill tests of its Laurel Transfer Solvent 622-C for the removal of permanent-type hosiery transfers prior to redyeing.

The results have been most satisfactory, according to reports. The solvent is a specially prepared compound of powerful solvents that may be used in regular dyeing machines, working effectively in either one-time or standing baths. Dependent on plant conditions, and within the product's minimum and maximum range, the solvent is said to remove all types of hosiery transfers, from the ordinary to the permanent type.

New Chlorine-Fast Vat Blue

Indanthrene Blue CLN Paste and CLNWP Powder are dispersed paste and dispersed powder brands, respectively, of a new, straight, anthraquinone vat dyestuff produced by General Dyestuff Corp., 435 Hudson St., New York. They have recently been developed for dyeing fast blues on cotton and rayon by either pigment or prereduced methods. Dyeings of this blue are said to offer excellent resistance to chlorine bleaching and to washing, along with good to excellent fastness to light. It is not offered for textile printing.

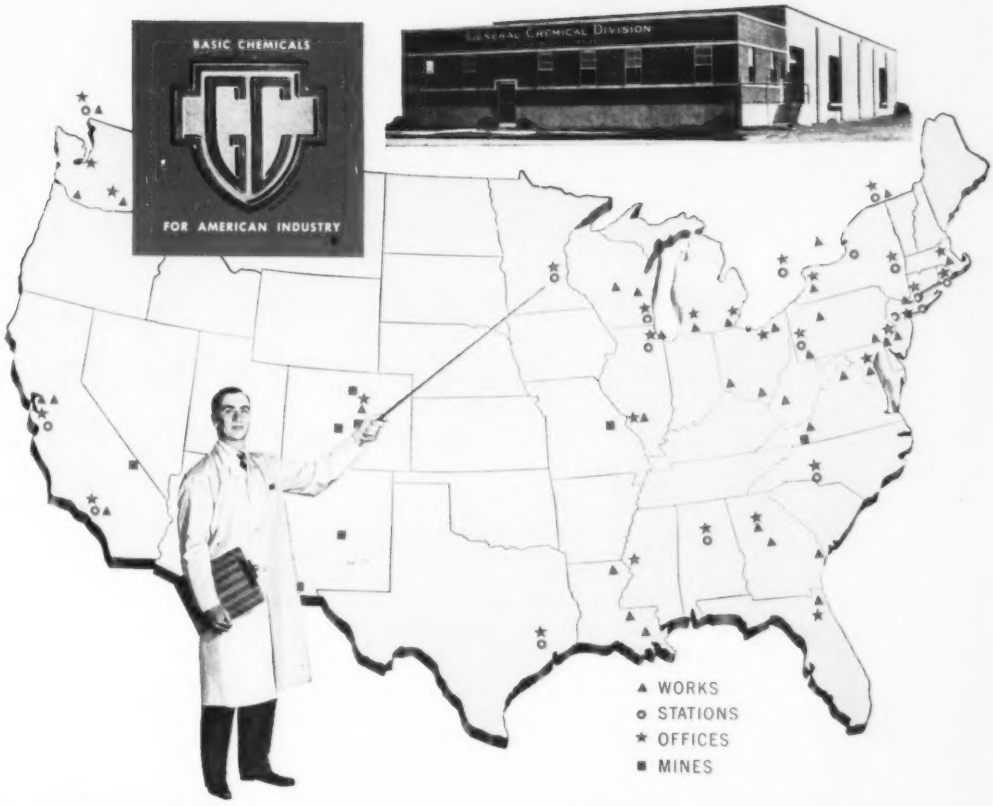
Although both of these paste and powder brands are suitable for the same purposes and are identical in shade and working properties, they differ in strength as follows:

100 parts Indanthrene Blue CLN Paste equals
50 parts Indanthrene Blue CLNWP Powder

The blue self-shades obtained with Indanthrene Blue CLN are considerably duller but not very different in hue from those obtained with the Indanthrene Blue BCS types.

GEARED TO MEET TODAY'S NEEDS

General Chemical's Distributing Station Now—Finer Than Ever!



TO HELP SUPPLY Industry's chemical requirements swiftly and smoothly, General Chemical has created *almost 100 service and supply points across the country.* Among these is General's extensive chain of Distributing Stations now equipped to provide finer services than ever in major centers of commerce.

MANY HAVE BEEN greatly expanded over the past year. Some have been relocated in large new quarters designed especially for storing and shipping heavy, fine and laboratory chemicals.

THIS MONTH, General is moving its Minneapolis Station into the large new office and warehouse pictured here. Recently, it opened similar quarters for its Stations in Albany and Syracuse, N. Y., Birmingham, Ala., Houston, Texas, and Montreal, Quebec.*

EACH EXPANSION, each new station, has been created for a single purpose—to mesh with General Chemical's Producing Works in providing the best possible service to chemical consumers from coast to coast.

THESE MODERN integrated distribution facilities can mean much in handling your chemical purchasing problems wherever your operations may be located. You will find them particularly advantageous if you have many plants being served by a central purchasing department.

Let us put these facilities to work for you—soon!

GENERAL CHEMICAL DIVISION
ALLIED CHEMICAL & DYE CORPORATION
40 Rector Street, New York 6, N. Y.
Offices in Principal Cities from Coast to Coast

*In Canada: The Nichols Chemical Company Limited

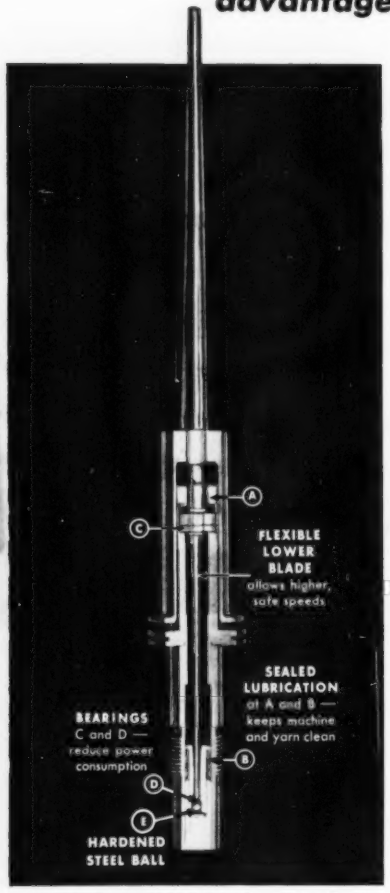
ACIDS • ALUMS • SODIUM COMPOUNDS • PHOSPHATES • FLUORINE DERIVATIVES • REAGENTS & FINE CHEMICALS

 For more information, write direct or use Reader Service post card.

Now you can be sure of CLEANER YARN...

one of many advantages of this new uptwister spindle

UNIFLEX SPINDLES have no free oil. Therefore no oil spray can soil your yarn. Proof is shown by absence of oil drip when fully lubricated step is held upside down. Sealed felt pads, lubricated by injection only once a year, meter oil to the bearings through porous bronze bushings.



FLEXIBLE LOWER BLADE cuts down vibration . . . reduces bearing loads . . . lengthens spindle life . . . lowers power consumption. Uniflex Roller Bearing Spindles are standard equipment on all new Unirail Uptwisters.

Reduce your costs, too, with NEW UNIFLEX SPINDLES on your uptwisters

Lower Power Costs. Because the Uniflex lower blade reduces bearing loads. Also, both upper and lower bearings are especially designed to cut power requirements, while a hardened steel ball takes the entire thrust load on a small area of contact . . . another power saving feature. Field tests to date indicate power savings of more than 15% over plain bearing spindles.

Lower Maintenance Costs. Because the Uniflex Spindle greatly reduces oiling and cleaning cycles and other attention. Less vibration means less heat and wear, for longer, trouble-free service life. Uniflex Roller Bearing Spindles not only assure a cleaner product but more economical production.

WRITE FOR BULLETIN S1. Get all the information about how Uniflex Spindles make uptwisters produce more and better yarn at lower costs.

UNIVERSAL WINDING COMPANY

P. O. Box 1605, Providence 1, R. I.

Boston, Philadelphia, Utica, Charlotte, Atlanta, Chicago, Los Angeles; Montreal, Hamilton, Canada; Manchester, England; Paris, France; Basle, Switzerland

Agents in every principal textile center throughout the world

Winding and Twisting Machinery for Natural and Synthetic Yarns

23.2.4

LETTERS FROM OUR READERS

Address all communications to:
Editor, *Round Table*, TEXTILE WORLD
330 West 42nd Street, New York 36, N. Y.

Round Table

A TRIBUTE TO EARLE

Dear Editor:

WHEREAS, our good friend and comrade of many events and years—the loved and respected Earle Mauldin—has passed to his reward since last we met, and

WHEREAS, his warmth of friendship and his long services to the textile industry are greatly missed, be it

RESOLVED, that the Alabama Cotton Manufacturers Association, at its 51st Anniversary Meeting in Biloxi, do hereby pause in our deliberations to note and long regret the absence of one who has been our friend, our interpreter and our trusted counselor.

Be It Further

RESOLVED, that this expression of esteem and regret be conveyed to his family, both personal and professional.

ALABAMA COTTON MFRS. ASSN.
Montgomery, Ala.

A FAVORABLE COMMENT ON "PERSONNEL EXPERTS"

Dear Editor:

I have just gotten around to reading the April, 1952, issue of TEXTILE WORLD.

I was very much impressed by the article on page 159, "A Supervisor Tells the Personnel Experts."

I wish you would pass on to this annonymous writer that I think his observations are the most sane and pertinent and down to earth that I have read for a long time. I hope he keeps on writing about the subject.

I also opine that this article deserves a greater audience among personnel men than it will get among the readers of TEXTILE WORLD, much as I admire your publication. Consequently, I suggest that someone circulate tear sheets among all the personnel publications in the country, including the A.M.A. house organ.

R. D. MANSFIELD, Mgr.
Job Analysis Dep't.
Forstmann Woolen Co.,
Passaic, N. J.

TAXES AGAIN—HEAR! HEAR!

Dear Editor:

We take the view that federal taxes already are at the danger point.

During a period of rearmament, high taxes are inescapable. But they don't have to be excessive. Lower tax rates sometimes bring higher revenues, because they encourage business operations out of which taxes are paid. Properly devised, taxes are preferable to deficits with accompanying inflation, which is the very worst form of tax.

It is the Chamber's view that the key to the problem of government finance is curtailment of lavish spending.

The disturbing and discouraging effects of the excess-profits tax should be eliminated.

Income taxes upon individuals must not cripple initiative, self-reliance, thrift, risk-taking, and proper provision for dependents and old age. Federal income-tax rates, reaching from 22% upon modest incomes to four times that on higher ones take from two to nine of every ten dollars of net taxable income. They cut deeply into small incomes and practically destroy those above a moderate level.

A tax program must be provided that will be better balanced and better suited to the system of individual responsibility and incentive that has enabled this nation to reach its state of preeminence in the world.

CHAMBER OF COMMERCE OF THE UNITED STATES
Washington, D. C.

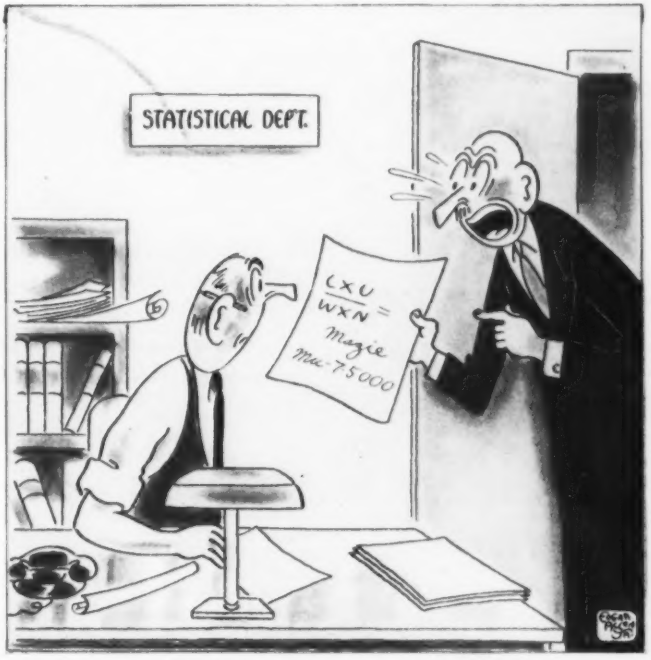
TW REACHES FAR

Dear Editor:

The writer returned from a trip to Japan a few days ago, and I believe that the following will be of interest to you.

I had occasion to address a group of

TEXTILE TICKLES . . . . . *By Edgar Allen, Jr.*



"Just what kind of a formula do you call this, MacWolf?"

textile workers of a large mill in Japan (superintendents, foremen and supervisory forces). There were approximately 100 men at the meeting and, to my knowledge, none of them spoke or understood English. Naturally, my address was made with the assistance of an interpreter.

When it came to the question and answer period, one of the foremen asked me whether or not I knew anything about a synthetic fiber that was produced at Lille, France. He knew it was produced in very limited quantities and was curious to know whether or not it was being exported to the United States. I pleaded ignorance in answering his question, but expressed interest in learning where he got his information. His reply to me was that he reads TEXTILE WORLD regularly and that he had gotten his information from your publication. Obviously he could read English but could not write nor speak it.

To my mind this was very unusual, particularly because of the fact that the mill was not located in a large city but up in the wilderness of Japan.

I thought the above would be of interest to you.

SIDNEY J. STEIN

Star Woolen Co.
Cohoes, New York.

[The synthetic fiber in question is evidently Rhovyl or Fibravyl, manufactured in Tronville, France, and described on page 120 of the April, 1950, issue of TEXTILE WORLD —Editor]

COMPARE YOUR CARD-ROOM WASTE WITH INDIA'S

Dear Editor:

I have gone through the article published in your issue of March, 1952, about the 22-point program to improve carding quality.

Under the heading "Standard Card-Waste Allowances," I find that flat-strip waste is the highest. I beg to differ with this. In an ideal card-room, one should get the highest waste from the lickerin fly because it contains heavy wastes such as broken seeds and dust left uncleaned by the opening-room. Next to the lickerin waste comes the flat strip waste.

I give below the ideal percentage of wastes we get on our cards spinning 20s count from Western cotton, making 60-gr. sliver having $\frac{7}{8}$-in. staple whose opening-room loss will come to about 10%.

1.	Lickerin-fly	2.552%
2.	Flat strips	1.562
3.	Dust under web	0.130
4.	Clearer waste	0.026%
5.	Cylinder & doffer strippings	0.442%
6.	Cylinder & doffer fly	0.338%
7.	Other fluffs	0.018
8.	Invisible loss	0.442%
	Total waste %	5.510

B. S. YALWAR
Spinning Master

The Ravalaseema Mills Ltd.
Adoni P. O., S. India.

STUDY HARDNESS OF YOUR WATER

Dear Editor:

An enemy to defeat in the removal of dirt and grease from greasy wool, yarn, or cloth is hard water. Hardness in water is usually classified in two ways:

1. Temporary hardness
2. Permanent hardness

The former is caused chiefly by the bicarbonates of calcium and magnesium and the latter by the sulphates and chlorides of calcium, magnesium, and aluminum.

Consider the effect of hardness created by calcium sulphate (which is perhaps the most common cause of permanent hardness), sodium oleate being the soap considered.

$$2C_{17}H_{33}COONa + CaSO_4 = Ca(C_{17}H_{33}COO)_2 + Na_2SO_4$$
$$608 + 136 = 602 + 142$$

From this equation it is clear that with anhydrous soap, 136 parts by weight of calcium sulphate will destroy 608 parts by weight of soap.

It must be remembered that a hard soap usually contains 25 to 30% moisture content. This moisture content in the soap means that a relatively greater percentage of soap is actually destroyed. If the soap contains 30% moisture, 136 parts of calcium sulphate destroy approximately 868 parts of soap.

It follows then that a reduction of what may appear trivial, say one-half an ounce of soap per yard in wet finishing, means a very big saving in a year when millions of yards are involved. If the water is adequately softened to begin with, a reduction in the amount of soda ash used will be realized.

The degree of water hardness should therefore be carefully investigated by all mills that use large quantities of water in the above-mentioned applications.

J. G. B.

Bradford, England.

DELAYED DELIVERIES

Dear Editor:

The action of the Armed Services Board of Contract Appeals in the Bergman Knitting Mills, Inc., case, should have wide significance for Government contractors.

In this case, the mill agreed to deliver 25,000 knitted shirts to the Government, upon a certain delivery schedule. It was known that the mill did not manufacture the yarn required for the production of the shirts, and in fact, the contract recited the names of the contemplated yarn sources.

Subsequently, the spinners failed to deliver the yarns in the quality and at the times promised, with the result that the mill was unable to comply with the schedule of deliveries for the finished article.

The contract contained a liquidated-damages clause that taxed the mill for every day of delay, and a sum equal to that amount was withheld by the Government.

The Appeals Board held that the mill was entitled to payment because the reason for delay was unforeseeable and beyond the contractor's control, and without its fault. In such a situation, the Board held the contractor could not be assessed liquidated damages for the delivery delay.

It was found that the delay was without fault or neglect on the part of the mill since it had obtained an option from the spinner before making the contract and had matured the option into a binding contract after the award. This, in the view of the Board was sufficient to free the contractor of any charge of fault or negligence. Accordingly it was held that the delay was forgivable; and the delivery schedule was extended to accommodate the situation.

It is a source of gratification that the Government has taken this fair and realistic view of the circumstances. This interpretation of the contract will undoubtedly encourage bidding for Government work.

HAROLD KORZENIK

New York

NEWER-FIBER PROPERTIES Depend on Polymer Type

By H. F. MARK
Director, Polymer Research Institute
Polytechnic Institute of Brooklyn

The following factors appear to be of particular significance for the development of good fiber-forming properties of a polymer:

1. *The average molecular weight.* It should not be too low because tensile strength, elongation to break, resistance against abrasion, and fatiguing decrease sharply as the degree of polymerization of the material becomes too low.

2. *Molecular-weight distribution curve.* Present experience indicates that too low molecular-weight fractions cause brittleness, whereas too high molecular-weight constituents can be responsible for difficult processing in filtration, deaeration, and spinning.

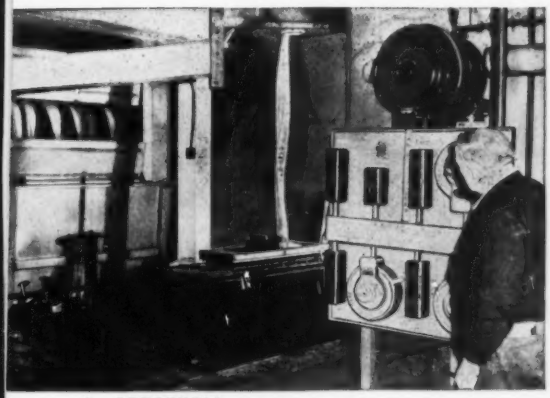
3. *Tendency to crystallize.* A certain tendency to form areas of crystalline character upon stretching, slashing or drawing is of importance whenever one wants to arrive at an interesting compromise between tensile strength, transversal properties, and break elongation. Strong and regularly distributed intermolecular force centers, stiff segments in the chain, and symmetric arrangements of the substituents favor the tendencies for crystallization.

High softening point, low brittle point, and a high resistance against the attack of chemicals, oxygen, light, and micro-organisms are also essential.

Digest of a paper delivered at the A.C.S. symposium in Buffalo, N. Y.

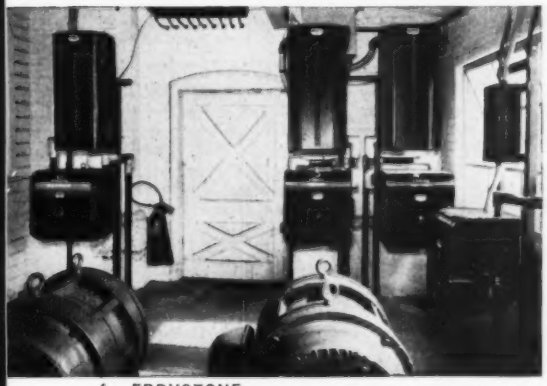
CUTLER-HAMMER

MOTOR CONTROL FOR THE TEXTILE INDUSTRY

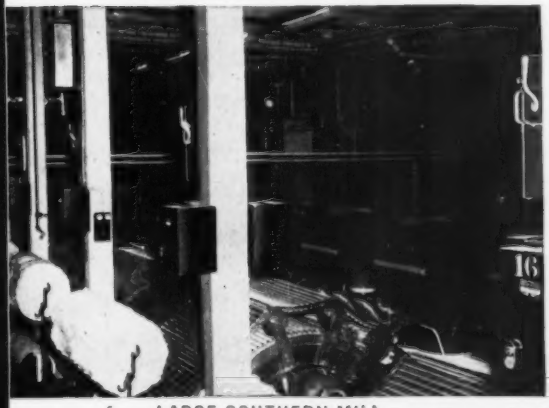


for **PEPPERELL** at Lewiston, Maine, where Cutler-Hammer Control is used at all steps of the continuous peroxide bleaching process.

for **EXPOSITION** at Atlanta. Not only are Cutler-Hammer Card Controllers used on these individual motor driven cards, but Cutler-Hammer Motor Control is used throughout the plant.



for **EDDYSTONE** at Eddystone, Pa. Cutler-Hammer Safety Switches and Autotransformer Type Manual Starters stand guard over the performance of m.g. sets for cloth printing machines. Cutler-Hammer control widely used here.



for a **LARGE SOUTHERN MILL.** Cutler-Hammer Card Controllers are standard equipment in this great mill in North Carolina.

Ask the men who know

Cutler-Hammer Motor Control is the natural choice of men who know *both* textile industry requirements and comparative motor control performance. They know Cutler-Hammer dependability is not a mere competitive claim but a fact that can stand out clearly in a mill's production records to reflect favorably on their own ability and good judgment. They also know that Cutler-Hammer dependability is not an occasional happenstance ... that it is the direct result of the longest and most intensive specialization in motor control engineering. And they know Cutler-Hammer dependability can safeguard *all* of their motor control needs, that Cutler-Hammer can furnish *any* type of control required ... from the simplest starters to the most complex electronic equipment.

You too will find it pays to insist on Cutler-Hammer Motor Control and refuse all substitutes. An adequate network of Authorized Cutler-Hammer Distributors throughout the textile manufacturing areas insures prompt attention and supply. CUTLER-HAMMER, Inc., 1457 St. Paul Ave., Milwaukee 1, Wis.

CUTLER-HAMMER CARD CONTROLLER

With integral drum type reverse switch

Here in one self-contained unit is all the control needed for a card ... convenient pushbutton starting and stopping *plus* an integral reverse switch for cleaning and grinding. Card cannot be reversed accidentally or by any unauthorized person when controller case is padlocked. Easier to install. Easier and safer to use. Felt-gasketed against lint. Famous Cutler-Hammer Eutectic Element Overload Protection specially arranged to provide long starting time (required for cards) without loss of normal operating protection.

CUTLER-HAMMER
MOTOR CONTROL
C-H

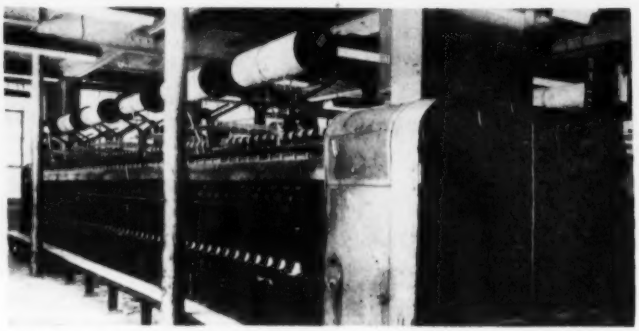
Kinks AND SHORT-CUTS

Converted Spinning Frames Give Twister Package Four Times as Big

We had an order calling for thousands of pounds of double-twist yarn at a time when our regular twisters could not be spared for this work. The following method was devised to make this twist on Whitin wool spinning frames.

We removed the spool drums and paired the spool stands to take the spools of yarn. A strip of wood was fastened to each spool stand, and a ⅜-in. hole was bored near the ends of the wood directly over the twister heads. A ⅜-in. rod was passed through the holes to act as a guide for the yarn. The spools, each having 40 ends of yarn, were hung on the spool stands. Twenty ends were passed over the guide rod and through ten twister heads on one side of the frame; the remaining twenty ends were passed over the guide rod and through ten twister heads on the other side of the frame. Six spools that contained 240 ends were hung on the stands and thus prepared 120 ends for twist. A piece of spindle tape with a weight attached gave the necessary tension to the spools. The chain driving the twister heads was removed because the twister heads do not revolve in this operation.

The package from the spinning frame weighs 20 oz., while the package from the regular twisters weighed only five ounces. We therefore eliminated many knots. *Albert Friedrich, Putnam, Conn.*



FORMERLY WOOL-SPINNING FRAMES, twisters now produce a 20-oz. package. Regular twisters make a 5-oz. package.

We Made Our Binder Press

We used to fasten cemented leather to our binders, one binder at a time, with C-clamps. This method was slow and we were always short of finished binders.

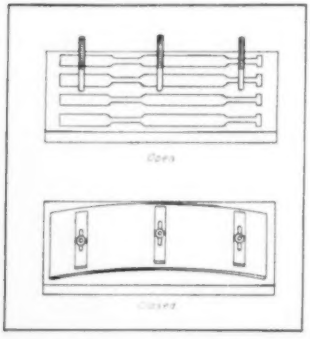
To speed up our binder-covering process, we made a binder press to cover four binders at once. We use two of the presses to give us eight binders in a batch. (See illustration on left)

The press base is made from a 1-in. board longer than the binders and wide enough to hold four binders. Three ¼-in. machine bolts were placed through the base from the bottom side.

The cover for the base is made from a piece of thin, flexible plywood the same size as the base. The cover has holes to fit the three bolts in the base.

Newly cemented binders are placed on the base with the leather up, the plywood cover is placed over the bolts, and wing nuts tighten the cover until the proper pressure is reached on the binders.

If the binders are not shaped and sized the same, uneven tension will result and the small binders will be left with loose leather.



FOUR BINDERS are placed in the press at once. The three machine bolts hold the plywood cover in place when the wing nuts apply the necessary pressure.

Nine-Point Program To Stop Shuttle Marks

We had shuttle marks in our filament-rayon cloth. The marks were so bad that we had to grade the cloth as second quality.

Here's what we did to stop shuttle marks:

1. Stopped the shuttle from rising in the shuttle boxes
2. Removed all rough places from the shuttle boxes
3. Tightened all loose spindles in the shuttles
4. Replaced worn pickers and paralleled all pickers
5. Reduced the picking stroke to the correct length
6. Timed the picking motion
7. Set the warp shed to the raceplate cover
8. Set the quillers to give even yarn tension
9. Reduced the size of the filling packages so that the filling clears the shuttles.

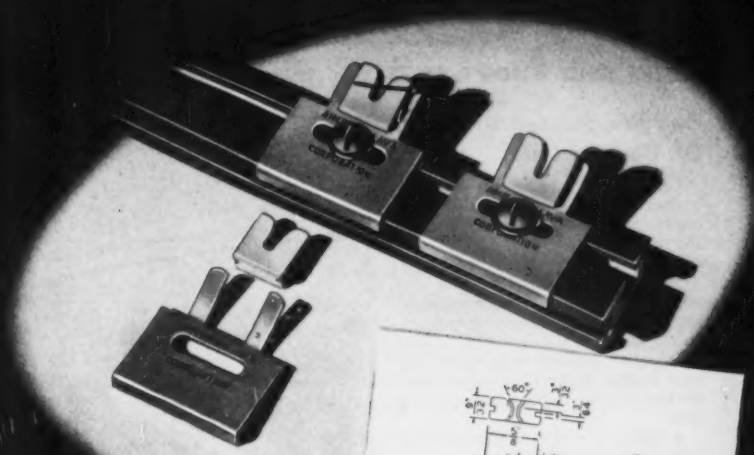
ALSIMAG THREAD GUIDE
NO. GS-20201
(Guides and holders on bar)

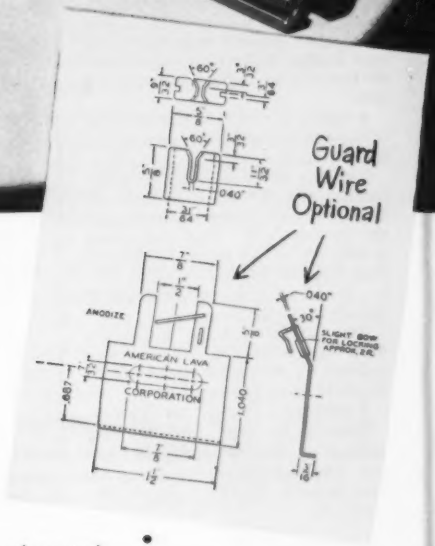
ANODIZED ALUMINUM HOLDERS

Part No. 20201-G (no guard wire)

Part No. 20201-H (with guard wire to keep the yarn from jumping out.)

Above holders fit the metal rail of ATWOOD MODEL 110 UP-TWISTER. Other holders are available to fit the rails of other makes of winders, spinners, redraws and up-twisters.





ALSIMAG® WINDER, SPINNER, REDRAW AND UP-TWISTER GUIDES FEATURE:

LONG LIFE: AlSiMag guides are hard, homogeneous. According to records from many mills, these guides will give you at least 10 times the service of any other make of guide.

FEWER BROKEN FILAMENTS: No surface "skin" to wear through. Wear is very gradual, simply reveals new surfaces of the same character as the original. No sharp edges to cause undetected yarn damage.

EASY TO INSTALL: These anodized aluminum holders with Screw slots that permit adjustment are available to fit the bars of several makes of machines.

EASY, QUICK CLEANING: Guides are lifted out of holders, cleaned, pressed back in position. Slight bow in top of holder holds guide firmly in position.

LESS DOWN TIME: Quickly, permanently installed. Guides lift out for fast cleaning.

MORE UNIFORM TENSION: AlSiMag guides are uniform physically and dimensionally. Available in High Polish or Satin finish. BETTER PACKAGE UNIFORMITY is the obvious result.

LOWEST COST per pound of yarn processed. Mill records indicate that this guide will do a better job for you and at LESS THAN 10% OF YOUR FORMER GUIDE COST.

The dimensional drawing above shows construction. Note oblong screw slot for easy adjustment and positioning. Slight bow in top area of holder permits guide to be quickly removed, cleaned and replaced.

TEST SAMPLES ON REQUEST

Our statements about these guides sound pretty enthusiastic but your own tests will prove that they are conservative. Test samples without charge. Tell us what machine you'll use them on so we can be sure to send you the right holders to fit it.

50TH YEAR *OF CERAMIC LEADERSHIP*

AMERICAN LAVA CORPORATION

CHATTANOOGA 5, TENNESSEE

OFFICES: METROPOLITAN AREA: 671 Broad St., Newark, N. J., Mitchell 2-8159 • PHILADELPHIA, 1649 North Broad St., Stevenson 4-2823 SOUTHWEST: John A. Green Co., 6815 Oriole Drive, Dallas 9, Dixon 9918 • NEW ENGLAND, 1374 Massachusetts Ave., Cambridge, Mass., Kirkland 7-4498 LOS ANGELES, 5603 North Huntington Drive, Capitol 0901 • CHICAGO, 228 North LaSalle St., Central 6-1721 • ST. LOUIS, 1123 Washington Ave., Garfield 4959

How We Stopped Breakage Of Harness Cord

Until a few years ago we had to replace harness cords and leader wires constantly because of breakage. For the past year we haven't had a single harness cord or leader wire break.

We now use a separate leader wire and jack eye for each end of a harness shaft. A single leader wire is fastened to a jack eye for the harness cord near the dobby. Directly over this leader wire another leader wire and jack eye are fastened two notches higher in the jack.

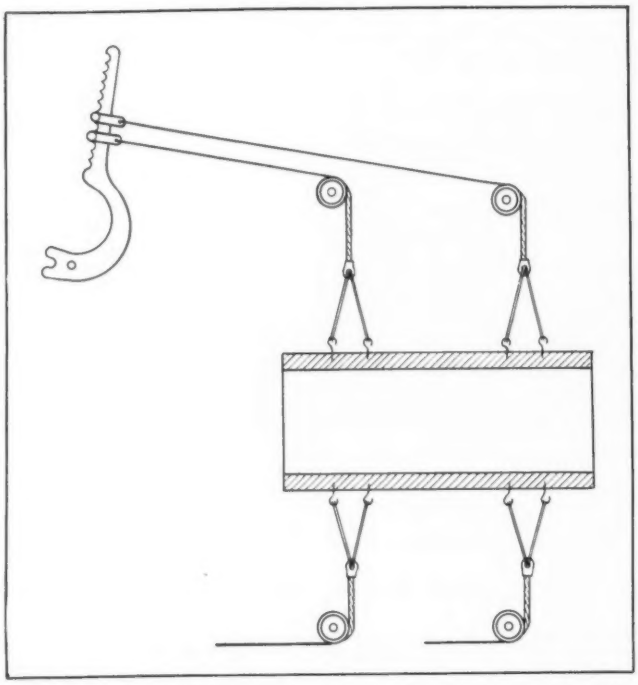
A regular ¼-in.-diameter harness cord is fastened to each leader wire at the harness sheaves.

Two No. 48 double-cable cords are fastened to each harness cord and are hooked to two hooks in the top of the harness shaft. The single hook at each end of the top of the harness shaft is taken out and replaced with two hooks set 1 in. on each side of the old hook position.

The bottom hooks in the harness shaft are repositioned the same way, and two No. 48 double-cable cords are added to the pull-down harness cord.

Loomfixers rearrange the harness.

Since we've been using the new method of harness setting our harness droppage for cord breakage has been reduced. *Charles R. Batzer, Lancaster Pa.*



STRONGER HARNESS FASTENERS result from the use of eight hooks in place of the original four hooks. An extra harness cable is fastened to each hook. Leader wires, too, are doubled at the top.

Rearranging Shuttle Guard Increases Shuttle Life

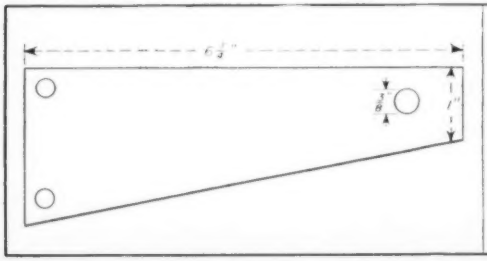
We had a lot of shuttles worn at the top, and sometimes a shuttle was thrown out of the loom and split.

To make our shuttles last longer, we changed our shuttle-guard covers. We removed the old guard cover from each end of the loom and made a new one the same width as the old one but longer. The new cover is 6¼ in. long and is tapered from the guard to a 1-in. width at the end. A ⅜-in. hole is punched in the narrow end with a saddler's punch.

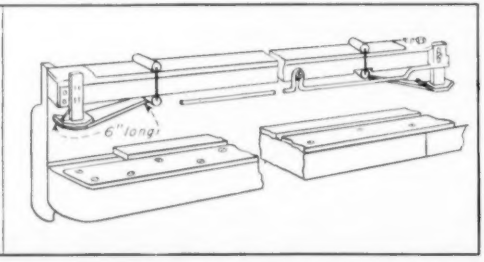
A ⅜-in. hole is drilled through the front edge of the handrail from top to bottom. The guard leather is stretched tight and bolted to the handrail.

The disadvantage of the present arrangement is that it takes much longer to change a worn guard leather, entailing additional cost.

Our shuttle life is longer since we have been using the new guard cover, and our warp-end breakage has been reduced. *Bernard Dixon, Danville, Va.*



THIS SHUTTLE-GUARD COVER is longer than the regular one. One end of the cover is attached to the guard in the regular manner, but the tapered end is bolted to the handrail.



THE EXTENDED COVER on the shuttle guard protects the shuttle when the shuttle is thrown high. Of course the loom should be fixed as soon as possible to stop it from throwing the shuttle high.

Your business is off—that's why I want to talk to you

I'm Clarence Moss.

I represent the Textile Division of Synthane (Laminated Plastics).

I work out of Elizabethton, Tennessee. But right now I'm speaking for all Synthane representatives.

We realize your business is slow. That's why we're picking *this* time to talk to you. When you're busy, you haven't time to spare, but now, during the lull, maybe we can get together more conveniently.

We'd like to tell you about what's current or new in bobbins or pirns, hosiery turning and examining forms, headless package tubes, redraw tubes, redraw caps, rollers and so forth. You'll probably want to know about a new collapsible bobbin for the pre-shrinking of nylon yarn. We've just been granted a patent on it.

We'd like to drop in on you soon with a boxful of samples for you to look over. We think you may want to investigate, and try out, Synthane now . . . before business picks up again.

Just let our people at Oaks, Pennsylvania know you're ready to see us . . . and thanks for listening to me.

Textile Division

SYNTHANE

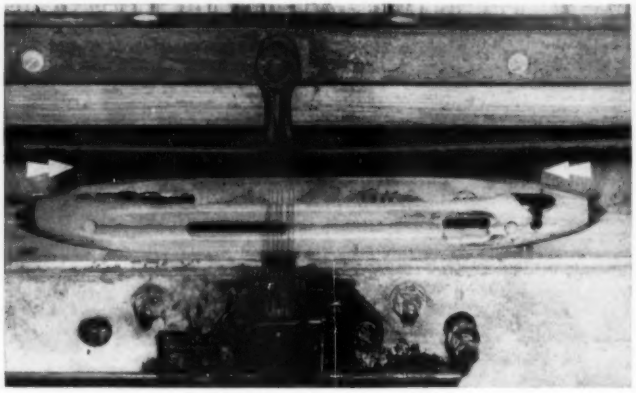
SYNTHANE CORPORATION

Oaks, Pennsylvania

Check Center-Fork Setting With Short Length of Reed

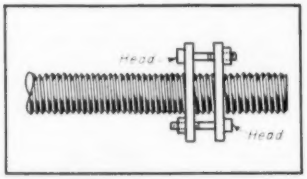
Since it is almost impossible to adjust, align, or time the center fork with the warp in place without damaging the cloth, we try to eliminate repairs to this motion by having the loomfixer check all the parts when the warp is off the loom. A center-fork gauge is used to check all the settings and any needed replacement of parts. The fork is aligned and timed while the warp is out.

The reed and shuttle must be in place to gauge the stroke or height of the fork. To eliminate a trip to the drawing-in room for a reed each time a warp is out and to prevent damage to a usable reed, each loomfixer's section is provided with a short length of reed. For this purpose we cut 1-ft. lengths from a reed that has been discarded for some minor defect. A perfect reed, such as would be required to align the box backs, is not needed when gauging the center fork. *W. C. Westbrook, Trion, Ga.*



1-FT. LENGTH OF REED is placed in the yielding-reed cradle to hold the shuttle in position to set the feeler wires on the center fork.

Hold Threaded Parts Without Damaging Thread



THREADED PLATES are screwed onto the rod you want to hold and are held in place by opposing screws.

Threaded parts can be held firmly without damage to the thread. Just take an iron or steel plate and drill a hole in it as large as the threaded part you want to hold. Thread the hole you drilled. Then fix up another plate exactly the same way.

Both plates should be drilled and tapped with a hole in each end to accommodate screws or bolts. Now for the assembly:

Screw the plates onto the part you want to hold and keep a little distance between them. Put one screw in to hold one end of the plates and then put the other screw in the other end to oppose the first one. The screws, pulling against each other, will hold the plates tight—and the plates hold the threaded piece on which you wanted the grip. *W. E. Warner, Essex, England.*

$500 for Best Kink in 1952
$25 for Best Kink Each Month

In Addition to Space Payment on Acceptance

You undoubtedly know of many kinks and short-cuts that are helpful to mill operators. Write them down and send them in. We pay promptly on acceptance—before publication. In addition, your kink may win the $500 check for the best kink of the year or the $25 check for the best kink of the month; maybe both!

Send in your kink now. There is always a contest going on. The more good kinks you send in, the better your chances of winning a prize in addition to earning some easy money for every kink accepted.

We will polish up your writing and will have an artist make finished drawings. But send in plenty of details so that your kink can be clearly explained. Be sure your sketch is clear and well labeled, but it need not be a polished job. Best of all, send us a good glossy photograph of it—we will pay you extra if you do and we can use it.

Look over the kinks in this and other issues. You will get ideas you can use as well as inspiration for kinks you can send in. We like items that pertain to ways for improving machines, new devices that a mill man can build, attachments or methods of merit—anything that will cut costs, improve quality, or help production.

Your published kink will be judged impartially by other mill men. In case of ties, duplicate prizes will be awarded.

RULES OF CONTEST

1. No limit to number of entries.
2. New $25 prize contest every month, $500 prize contest for the year. Monthly contest confined to kinks published that month, yearly to those published in calendar year 1952.
3. All kinks paid for on acceptance; extra payment for photographs. Drawings need not be finished (clear detailed pencil sketches will do).
4. Previously published material not eligible for prizes.
5. Unless you advise to contrary, we assume we may sign your name to kink when published.
6. Prize winners will be selected by readers, a different group each time. At least 200 will be asked to select preferred kinks in each issue. Their votes will select the best kink, and their decision will be final.

Send kinks to:

KINKS CONTEST, TEXTILE WORLD
201 E. Coffee St., Greenville, S. C.

Always Uniform

Precision is never an accident. Unvarying quality must be put there by the maker . . . whether it's in Victor Mill Starch, bolts or screws.

Mill men know that Victor's uniformity shows up in better penetration, stronger warps, greater smoothness, fewer slashing problems.

That's why both Victor and the Keever man are known as "The Weaver's Friend."

TEXTILE SALES DIVISION
1200 WOODSIDE BUILDING
GREENVILLE, SOUTH CAROLINA
Charles C. Switzer, Manager

THE KEEVER STARCH CO. ★ GENERAL OFFICES ★ COLUMBUS 15, OHIO
Corn, wheat and other grain products for industry since 1898

Best-Kink Award for May

Each month TEXTILE WORLD awards $25 to the submitter of the kink judged by a panel of over 200 practical mill men as the best for that particular month. A new batch of kinks appears each month, and a new group of readers acts as judges each month.

If you are asked to judge one of these days, be sure to help select the best kink by sending back your answer in time for final tabulation. Closing date for judging is the last day of the month in which the kink appears.

The best kink for May, according to TEXTILE WORLD reader-judges, was:

"Lift Rack Reduces Breakage at Draw Frames"

Oliver Smyth, Pepperell, Ala.

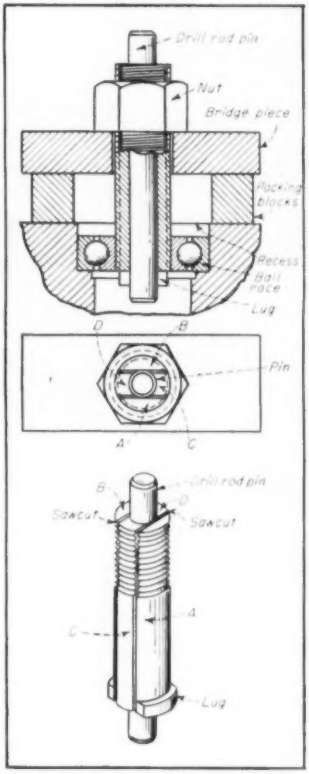
Mr. Smyth is being sent a check for $25 with the compliments of TEXTILE WORLD

Extracting Tool For Ball Races

A constantly recurring job in our maintenance shop is the pulling of 1-in.-bore ball races from the recesses into which they are driven. It is not very convenient to attack them from the back of the recess, so we made a special extracting tool to pull the races from the front or open end of the recess.

Heart of the pulling tool is a modified 1-in. hexagonal bolt, the head of which is turned in the lathe to form a circular flange. The axis of the bolt is bored and reamed right through to accommodate a length of drill rod. The bolt is then divided into four by sawing two slots lengthwise, as indicated in the sketch, so that there are two side pieces and two center pieces. The portion of circular flange attached to the center pieces is removed by filing it away.

To use the puller on a ball race, insert the two side pieces in the ball-race bore so that the lugs on their lower ends can hook under the back face of the inner race. Next insert the center pieces, together with the drill-rod pin. This last keys all the separate portions of the bolt together so that it becomes a solid assembly and allows a nut to be engaged with the thread. The nut bears upon a bridge plate, which spans the ball-race recess, and a wrench that is applied to the nut causes the ball race to be extracted with very little effort. *Clifford T. Bower, London, England.*



FANCY WEDGE SYSTEM makes the removal of ball races easy, even when the races are driven into recesses.

Spray and Save

An empty window-spray bottle or one of these new squeeze-type plastic bottles can be filled with turpentine or kerosene and used in the shop to clean your hands. Not only do you get your hands cleaned faster, you also save on cleaning fluid.

Tallow Aids in Mending

We mend our suiting fabrics before they are finished.

Broken picks and other defects are mended much more easily if a tallow stick is rubbed on the back side of the defect before the mending is started. *Bernard Dixon, Danville, Va.*

Bale-Tag System Makes Mistakes Difficult

To make sure that the bales we want in our cotton mix get into the mix, we have devised a simple method of tagging each bale with an almost foolproof system.

After classing, each bale is tagged with staple, grade, and color. But here's the trick: the color of the tag denotes staple length, the grade is marked by number, and the color is given a letter. You can set up your own code, but here's the one we use:

Staple Length	Code
31/32	Blue Tag
1	Yellow
1 1/32	Green
1 1/16	Pink

Grade	Code
Good Mid.	No. 3
Str. Mid.	No. 4
Middling	No. 5
St. Low Mid.	No. 6
Low Mid.	No. 7

Color	Code
Extra White	A
Bright	B
White	C
Spotted	D
Tinged	E

For example, a bale with a yellow tag marked 5-C would be 1-in. Middling, white. A blue tag marked 4-D would denote 31/32-in. Strict Middling, spotted.

The color code and markings make bale selection easy and help to check bales on the opening-room floor. This system of marking helps to prevent light or dark warp stripes and filling bars, and it also helps keep yarn strength and appearance uniform. *E. H. Helliwell, Newburyport, Mass.*

Let a Switch Watch Your Water Level

Summer is here and with it comes the need of watching water levels in reservoirs. Why not let a switch do the work for you?

Put a ball float in your reservoir, tie a rope, small cable, or wire to it, and thread up a couple of pulleys so that the float can move vertically and be balanced by a counterweight. Install a leaf-actuator switch near the top of the counterweight side of your system—at the point where you want to know that water is getting scarce. When the counterweight closes the switch, a red lamp can light in your office, in the engine room or wherever you want. *Micro Tips.*

Swing to—

BOGER & CRAWFORD

SPUN NYLON YARN!

The quality of Boger & Crawford yarn is guaranteed—the highest tribute we can pay it.

SIGNED *Frederick Boger*

"SWING" is in the air!

. . . to Boger & Crawford spun nylon yarn! 60/2 and 80/2 ply.

Ideal for weaving and knitting! Sweater . . . skirt . . . stockings . . . by "courtesy" of B & C spun nylon yarn! Available in 20 wonderful fast colors. Color fastness equal to or better than Synthetic Fiber Test #1 and #2 AATCC.

Write for free samples of colors today!

BOGER & CRAWFORD

K & E. Venango Sts. • Philadelphia 34, Pa.

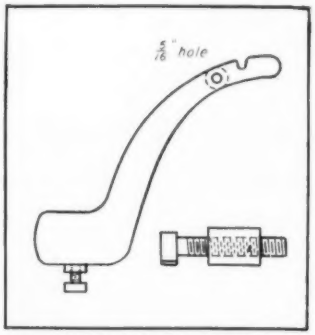
Bottom Drawing Clearers Held by Scavenger-Roll Holders

The standard way to hold the bottom clearers on drawing frames against the under side of the bottom steel rolls is by means of leather and weights. The leather straps, tied in the ends of the clearer boards, circle the top of a bottom-roll neck and then support small cast-iron weights. These weights, pulling on the leathers, keep the clearer boards against the bottom rolls.

We devised clearer-board holders similar to scavenger-roll holders on spinning frames to eliminate the standard leather straps and weights.

The chief objection to the use of leather and weights is that the clearers are hard to clean. While it is not necessary to stop the frame to pull the clearer down to clean it, picking it with the frame running is a little dangerous and often lets clearer waste run through the rolls with the stock. Most mills, therefore, require drawing tenders to stop the frame to pick the bottom clearers.

The clearer-board holders we use make picking the bottom clearers much easier and faster, and we don't have to stop the frame.



BOTTOM DRAWING-FRAME CLEARERS are held in place by old spinning-frame scavenger-roll holders. These holders, replacing leather straps and weights, make it much easier and quicker for drawing tenders to pick the bottom clearers.

To make the holders, we used scavenger-roll holders discarded with some old spinning frames. We mounted these holders on the roll-block stands, and put 1½-in.-long pins in the ends of the bottom clearers. These pins rest in the notches of the holder the same way that the scavenger-roll pins did. Since the holder is mounted on pivot points, the weighted ends of the holders keep the clearer pressed against the rolls.

As shown in the accompanying sketch, we use a ⅜x1¾-in. bolt to mount the holder to the frame. A hole for this bolt is drilled and threaded in the roll-block stand, and a ¾-in.-long spacer is used to keep the holder in the proper position under the rolls.

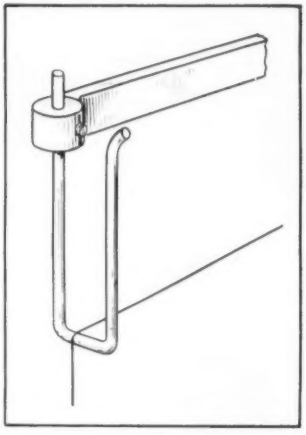
A ¼-in. bolt is screwed into a hole drilled and threaded in the bottom of the weighted end of the holder. The purpose of this bolt is to act as a stop. When the clearer is taken out of the holder and the weighted end drops down, the end of the bolt rests on the roller beam of the frame and prevents the upper end of the holder from resting against a roll.

With the holder stopped in this position, it is easier for the tender to replace the clearer after it has been cleaned. *Maurice M. Longchamps, Manchester, N. H.*

Slot Replaces Pigtail To Prevent Yarn Cutting

In knitting or winding woolen and worsted yarns we found that the yarns cut grooves in the pigtails. We had to replace the pigtails if the yarns made a quarter turn. We had the most trouble with wet worsted yarns in winding.

To overcome the cutting we replaced the pigtails with loops set at a right angle to the yarn. The rapid whipping of the yarn in the loops prevented the cutting. *Walter A. Simond, Essex Junction, Vermont.*



U-SHAPED SLOTS, made of ⅛-in. wire, don't let the worsted yarn ride in one place long enough to cut a groove, as was the case with pigtails.

Prevent Cable Overlapping

You can prevent overlapping of cable on a power hoist by setting a bar across the top of the drum just high enough to let one layer of cable form beneath it. Then put a couple of snap-action switches in contact with the bar. If any improper winding starts, the bar will push up and close the switches to stop the motor. *Micro Tips.*

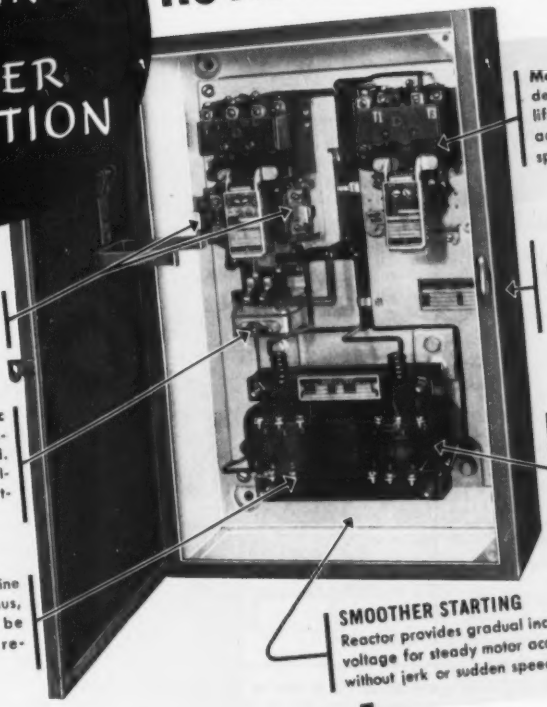
Red Float Indicates Fire Bucket's Water Level

As a safety feature, most mills have fire buckets conveniently hanging on walls in every department. A problem has always been to maintain water in these open buckets, which are liable to become dry through evaporation. Ordinary methods of checking to determine if there is sufficient water are slow and expensive and require someone to climb up and inspect each bucket.

One mill has solved this by floating a home-made indicator in each bucket. Now the maintenance man walks quickly through the mill, staying in the center aisle, and fills only those buckets that require attention. The indicator is made of a spool or knob of wood, mounted on a wooden stick the height of a bucket and floated by a piece of flat cork. The spool and stick are painted red to make for good visibility from a distance. As the spool is on a stick that is the exact height of a bucket, the inspector is able to judge the fullness of the bucket by comparing the spool height with the bucket size.

New REACTOR TYPE ROVING FRAME STARTER

FOR SMOOTHER STARTING AND COOLER OPERATION



Magnetic contactors are designed and built for long life and heavy usage. Note accessibility for easy inspection and maintenance.

A choice of enclosures to meet varying textile mill applications. Nema IA illustrated. Nema I, V, and XII also available.

Melting alloy overload relays for maximum accuracy and dependability.

Adjustable pneumatic timing relay controls duration of starting period. Easily set for proper acceleration . . . makes all starting periods identical.

Reactor taps provide nine different settings. Thus, starting torque can be matched to machine requirements.

NO FIRE HAZARD
Reactor design allows no more than 65° C. rise and permits non-ventilated enclosure. Reactor will not overheat on any duty cycle.

SMOOTHER STARTING
Reactor provides gradual increase of voltage for steady motor acceleration without jerk or sudden speed change.

• Roving frames call for smooth, "soft" starts and the motor control must operate without fire hazard in linty atmospheres. This new reactor type, reduced voltage starter has been designed to meet these textile mill requirements—specifically.

Bulletin 8548 gives the complete story. Write Square D Company, 4041 North Richards St., Milwaukee 12, Wisconsin, or contact your nearby Square D field engineer.

SHIPPER ROD CONTROL STATION
An ideal "running mate" for the new reactor type starter. Flexible design permits conversion to either l.h. or r.h. operation clockwise or counter clockwise rotation. Slotted operating arm for easy adjustment. Snap-action contact mechanism.

ASK YOUR ELECTRICAL DISTRIBUTOR FOR SQUARE D PRODUCTS

SQUARE D COMPANY

We Use a Stand To Store Loom Harnesses

Seasonal style orders at our mill call for light dye shades. We often wove dirt into our fabrics and traced it back to dirty harnesses that were left on the floor of the drawing-in room when they weren't being used.

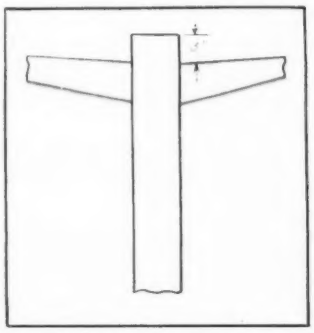
To eliminate the dirt, we built stands to store the harnesses. The stands are made from two sturdy upright shafts that are securely fastened to the floor to form alleys. The stands may be approached from either side.

Arms to hold the harnesses are fastened to each side of the upright shafts. The arms tilt up slightly at the ends so the harnesses cannot slip off. The top two arms are 3 in. from the top of the upright shafts so the shaft will separate the harnesses that are placed on each side.

The second and third sets of arms are placed below the top set to hold additional harnesses.

The harnesses should be tagged and fine-goods harnesses kept separate from coarse-goods harnesses.

Our woven cloth is much cleaner since we have been using harness stands, and our harnesses are also kept in better condition since they cannot become tangled.



HARNESSES ARE KEPT CLEAN if they are stored on a stand when they aren't being used. Three rows of harnesses can be placed on each side of the stand.

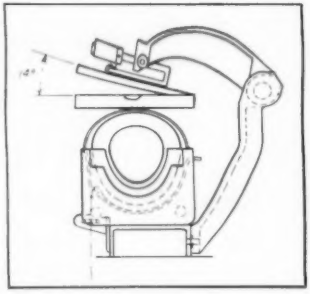
Bar on Level

Sets Guide Holders Evenly

In single-end nylon sizing on the No. 250 Universal sizing machine, the sizing guide holder should be tipped upward at an angle of 14° with the horizontal. The problem is to set this angle accurately and to have all the holders set exactly the same.

We solved this problem by fastening a thin piece of metal to the side of a small level at an angle of 14°. Now we just place the level on the size roll, get the bubble centered, and move the holder until it is parallel with the 14° bar on the level.

The new method of setting is fast, simple, and positive. The setting which governs the arc of contact of yarn to size roll, is very critical, and a few degrees of difference affects size pickup a lot. Now we're sure that this variable is controlled. *John Thomson, Manchester, N. H.*



BAR ON LEVEL is fixed at 14° and assures uniform settings for all guide holders in single-end nylon sizing.

Our Harness Dobby Chains Don't Split Any More

Our harness dobby chains used to dry out and split. We now clean them when they are taken off the looms and then soak them in a lightweight oil for three or four days.

If chains continue to split, or if dobby pegs loosen, we inspect the bottom surface of the fingers of the top and bottom cylinder. If the surface of a finger is rough or has holes or grooves worn in it, we replace the finger at once with a new one.

We used to have new chains split within two days of their installation. Our chains now last much longer than they formerly did. *Bernard Dixon, Danville, Va.*

(Editors Note: We always got best results when we used linseed oil as a bath for harness dobby chains.

Good loom-maintenance methods require that cylinder fingers be cleaned and inspected at each warp out.)

Safety Suggestions

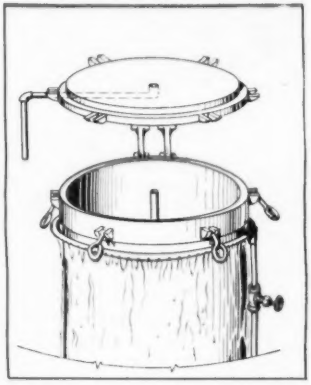
Put that bottle in the rack provided for it—never leave it on the frame or on the floor.

Be a good neighbor to your fellow worker by reminding him of the danger of a machine in motion.

Never use bobbins or sticks as window props.

Don't run on the job—you might slip and fall or run into something and be injured. *Avondale Sun.*

How We Cool Kiers During Naphthol Dyeing



KEEP KIER COOL with pipe line that circles the kier and lets water run down the sides out of 1/16-in. holes spaced every inch along the ¾-in. pipe.

The cooling jacket on our package-dyeing machines wasn't giving us the cooling we needed for low-temperature dyeing, particularly for napthols, so we fixed up an improved cooling system.

All we did was circle the kier with a ¾-in. cold-water pipe line that had 1/16-in. holes every inch along the pipe and facing the kier. Cascading water from the little holes now keeps down pump build-up and helps us to maintain even temperatures throughout the dyeing cycle.

On napthol dyeings that require coupling temperatures of below 60° F. we use ice water in the cooling system. *James Sisk, Talladega, Ala.*

Send in YOUR Kink now! There are always two contests going on—the $25 monthly contest and the annual contest, now worth $500 to the winner. See page 158 for rules.

PAMACO

Tough to Beat!

Wherever you need guides you will find PAMACO tough to beat. That's because PAMACO Guides are made of quality materials in a modern plant by men with the know-how necessary to produce guides that deliver superior performance.

PAMACO 175—A composition developed especially to give you the smooth long wearing guide needed for the newer yarns. It can be made in a variety of shapes by pressing, extruding, and machining. The body is homogeneous thereby extending the useful life of the guide many times, since no sharp edges or dissimilar material is exposed through wear.

PAMACO 200—The most abrasive resistant man-made material to date. Since this material is so hard, shaping and cutting after firing is very costly, and in cases impossible. May we suggest you contact our engineering department for design modifications where possible.

We also manufacture a complete line of glazed porcelain, chrome plated, enameled and glass guides. Why not consult us?

PAGE-MADDEN COMPANY

76-96 SECOND STREET, MINEOLA, NEW YORK

Are too many sources a sore spot with you?

In many phases of the textile industry, the manufacturer is forced to buy from many sources. He can't avoid it . . . and it's a costly proposition in terms of time and money.

But that isn't true when it comes to lubricants.

Cities Service provides a single, dependable source for lubricants exactly suited to your operation. Cities Service lubricants . . . specifically designed for the textile industry . . . help eliminate costly wear and parts-failure on all textile machinery. With these quality products you're assured of *cleaner* machine bearings and shafts, and cleaner finished goods, too. With them you can keep friction, due to *gumming and power load*, down to the barest minimum . . . KEEP PRODUCTION AT MAXIMUM.

Eliminate wasted time, wasted money and reduced output. Use Cities Service as a single source for the finest textile lubricants. For tangible proof—turn over your most stubborn lubricating problem to a Cities Service Lubrication Engineer. Simply write CITIES SERVICE OIL COMPANY, Dept. G38, Sixty Wall Tower, New York City 5.

CITIES SERVICE

QUALITY PETROLEUM PRODUCTS

Free Technical Information

Reader Service

MILL EXECUTIVES may obtain free for the asking . . .

. . . OUTSTANDING TRADE LITERATURE reviewed on the next and following pages

. . . FURTHER INFORMATION on
New Textile Equipment
New Dyes & Chemicals
New Useful Accessories
Editorial Articles
and the Advertisements

WRITE ON THIS CARD

. . . to get more information on anything published in the editorial or advertising pages of this issue. If your inquiry concerns equipment or supplies, name the specific equipment or supplies involved. If your inquiry concerns anything other than equipment or supplies, you must state specifically the information you want.

. . . to send a Kink, a letter for Round Table, or a news note.

. . . to comment on anything appearing in this issue.

. . . to query the editors about any manuscripts you might wish to submit to them.

. . . to send an inquiry to the Questions & Answers department.

Cards require no postage . . . but be sure to give your name, title, mill connection, and address.

CIRCLE THE NUMBERS ON THIS CARD

. . . to request copies of trade literature described on the next and following pages or to get more information on New Useful Accessories described in this issue.

Dear Editor JULY, 1952

Please send me additional information on the following:

PAGE	SUBJECT	PAGE	SUBJECT

Name..... Title..... Mill.....
Please print or write legibly

Street..... City..... (. .), State.....
This Card Expires September 30, 1952

Please send me the following: JULY, 1952

TRADE LITERATURE Numbers F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12 F13 F14 F15 F16 F17 F18 F19 F20 F21 F22 F23 F24 F25 F26 F27 F28 F29 F30 F31 F32 F33 F34 F35 F36 F37 F38 F39 F40 F41 F42 F43 F44 F45 F46 F47 F48 F49 F50 F51 F52 F53 F54 F55 F56 F57

NEW USEFUL ACCESSORIES Numbers U1 U2 U3 U4 U5 U6 U7 U8 U9 U10 U11 U12 U13 U14 U15 U16 U17 U18 U19 U20 U21 U22 U23 U24 U25 U26 U27 U28 U29 U30 U31 U32

Name..... Title..... Mill.....
Please print or write legibly

Street..... City..... (. .), State.....
This Card Expires September 30, 1952

Outstanding TRADE LITERATURE
Free for the Asking

NO REPEATS . . . Listed here for July are current bulletins reviewed by the editors of TEXTILE WORLD. To get the ones you need, circle the number on the Reader-Service card, as described on the preceding page.

TEXTILE MACHINERY

Dyeing, extracting, and drying machines for cotton yarn are described in a catalogue issued by Standard Fabricators, Inc. One feature of the booklet is a combination beam- and package-dyeing machine that has a capacity of one to six beams or carriers. The control panel described is called "The Boss Dyer." **(F-1)**

Preparatory machines for textiles are described in a folder made available by C. G. Sargent's Sons Corp. In addition to scouring, extracting, and drying machinery, the folder also pictures opening, picking, dusting, and blending machinery. The yarn-handling line includes conditioning machines, dryers, scouring machines, and winders. **(F-2)**

Shuttle-truing-machine details are given in a bulletin published by H. J. Theller Corp. Although the device is designed primarily for shuttles, it can also be used for the machining of wooden box fronts, for planing reed frames, and as a horizontal drilling machine. **(F-3)**

A high-speed tenter that has a completely enclosed delivery end is shown in a folder prepared by Marshall & Williams Corp. A few of the machine's features are: heavy one-piece bed plate, fabricated-steel floor stands and crosses, totally enclosed drive units, wide parallel rails, large drive sockets, and antifriction bearings. **(F-4)**

The fastest buttonhole machine ever developed is described in a folder issued by The Reece Corp. The machine has a range of buttonhole lengths from ¼ to 1⅝ in., and stitch density is adjustable to suit requirements. Crosswise or parallel operation is offered. **(F-5)**

A cloth-spreading machine that will not jump the track even if the table is not level is shown in a folder published by Woolman's Sewing Machine Co. The machine automatically clamps ends of a fabric without the use of pins. Three other types of spreading machines are also shown. **(F-6)**

A fully automatic laying-up machine that features a quick-change gear, variable speed, and a new roll lift is described in a bulletin issued by J. A. Firsching & Son, Inc. The new model lays up 8½ in. of fabric instead of 7 in. The improvements described can be put on the old machines, too. **(F-7)**

You can trim selvage threads faster and cut inspection costs with Trim-Master, according to a leaflet prepared by Ginsberg Machine Co., Inc. The device can be installed on any standard inspection frame and permits trimming, examining, measuring, and winding all in one operation. **(F-8)**

A dye beck that features a radically new cloth-handling system is described in a folder published by Rodney Hunt Machine Co. The new dual reel and plaiter are said to eliminate slippage and surging. The fabric range goes from nylon tricot to 34-oz. carded felt. **(F-9)**

Centrifugal extractors are the subject of a comprehensive catalogue issued by Tolhurst Centrifugals Div., American Machine & Metals, Inc. Of particular interest is the hydraulically driven centrifugal that can be operated at infinitely variable speeds. **(F-10)**

AUXILIARY EQUIPMENT

An up-twister spindle said to make the machines produce more and better yarn at lower costs is described in a folder put out by Universal Winding Co. You are invited to compare your present spindles with this Uniflex roller-bearing spindle. A cutaway photo shows how the spindle operates. **(F-11)**

Materials Handling. Overhead handling of a wide range of materials is discussed in a well-illustrated catalogue from Cleveland Tramrail Div., The Cleveland Crane & Engineering Co. You may get some ideas from the non-textile applications included in the publication. **(F-12)**

"Stops yarn breakage" is the claim made for the conical ring in a folder issued by Herr Mfg. Co., Inc. The conical shape of the ring produces a different action of the traveler running on the ring. Designs are available for all standard types of spinning and twisting equipment. **(F-13)**

A cotton-classing aid said to eliminiate tedious and detailed visual determination is described in a folder from Henry A. Gardner Laboratory, Inc. The Colorimeter described uses a cold photoelectric analysis under unvarying conditions to give the classer a standard basis of comparison. Cost and maintenance are said to be relatively low. **(F-14)**

Magnetic separators for the textile industry are shown in a bulletin issued by Erics Mfg. Co. An easy-to-read chart shows how the five main types of per-

Postage Will be Paid by Addressee

No Postage Stamp Necessary If Mailed in the United States

BUSINESS REPLY CARD
FIRST CLASS PERMIT No. 64 (Sec. 34.9 P. L. & R.) NEW YORK, N. Y.

TEXTILE WORLD
330 W. 42nd Street
New York 36, N. Y.

McGraw-Hill Publishing Co., Inc.

Postage Will be Paid by Addressee

No Postage Stamp Necessary If Mailed in the United States

BUSINESS REPLY CARD
FIRST CLASS PERMIT No. 64 (Sec. 34.9 P. L. & R.) NEW YORK, N. Y.

TEXTILE WORLD
330 W. 42nd Street
New York 36, N. Y.

McGraw-Hill Publishing Co., Inc.

Reader Service (Continued)

manent magnets are used in three branches of the industry—cotton, waste, and wool or wool-rayon blends. **(F-15)**

Motors. Design and application features of Life-Line motors, now made in ratings up to 700 hp., are described in a new booklet made available by Westinghouse Electric Corp. Applications in various industries are illustrated, and separate sections describe special features of the motors. **(F-16)**

An infrared spectrophotometer with a direct-transmittancy recording attachment is described in a data sheet issued by Brown Instrument Div., Minneapolis-Honeywell Regulator Co. Photographs of the equipment, schematic diagrams of the optical system, and illustrations showing typical chart records are included with the sheet. **(F-17)**

Motors. Construction details of explosionproof, fan-cooled, and non-ventilated motors are described in a bulletin released by Allis-Chalmers Mfg. Co. These fan-cooled type APZZ motors are available in ratings of 3 to 100 hp.; and the non-ventilated type APKK are available in ratings from ½ to 2 hp. **(F-18)**

An automatic yarn-strength tester said to entirely eliminate the human element is described in a folder issued by Uster Corp. The tester has six interchangeable capacities for strength and three interchangeable capacities for elongation. The machine is said to be able to make as many tests as two or three hand-operated testers. **(F-19)**

The Pacific evenness tester is described in a new booklet put out by Anderson Machine Shop, Inc. The bulletin tells what the tester does and how it works. The back page is a specifications summary of the unit. **(F-20).**

The fineness of wool is just one of the subjects covered in a data sheet on the Micronaire published by The Sheffield Corp. In addition, there are six tips that will help you to get best performance from the instrument on cotton or wool. **(F-21)**

The Universal wear tester developed by Dr. R. G. Stoll is described in a bulletin issued by Custom Scientific Instruments, Inc. The three types of abrasion that the machine can measure are discussed in detail. **(F-22)**

The Arealometer, an air-flow instrument used in the measurement of cotton fineness and immaturity, is described in literature made available by Special Instruments Laboratory, Inc. A research paper on the subject by K. L. Hertel and C. J. Craven is included. **(F-23)**

The electron micrometer—an electronic instrument that continuously measures the diameter of yarns, threads, and the like—is described in a folder issued by Standard Electronics Research Corp. The device is a diameter gauge, that uses a weightless beam of light for the measuring medium, and it can be used to indicate and record yarn numbers and yarn variations. **(F-24)**

Storing anything in bins? You may be interested in an automatic bin-level indicator, for all bulk materials, described in a catalogue from The Bin-Dicator Co. The unit can be used to actuate various types of signals, if required, as well as to indicate bin levels. For more information, send for **(F-25).**

SUPPLIES AND CHEMICALS

Three new booklets have been announced by C. R. Daniels, Inc. No. 1 covers standard sizes and capacities of canvas baskets, hampers, and trucks. No. 2 deals with their suede-covered aluminum-frame hosiery trays that protect hosiery from picks and snags in all handling operations. This second folder also describes Glosstex trucks and canvas baskets. No. 3 features new treatments and applications of canvas for industrial usage. You can get all three by sending for **(F-26).**

Germicides and fungicides for mold and bacteria control are discussed in a loose-

THE
MOBILIFT 6-10*
FORK LIFT TRUCK

EXCLUSIVE FEATURES
MAKE MOBILIFT BEST!

✓ **Lev-R-Matic Drive**
Grouped 2-way PUSH-PULL levers give instant, finger-tip control...forward, back, elevating, and tilting. THERE ARE NO GEARS TO SHIFT!

✓ **Mobil-Chain Lift**
Controlled power, roller-chain-operated lift allows unobstructed view between uprights.

✓ **Mobilift's 3-Cylinder Heavy Duty Engine**
Air-cooled, compact, well-balanced and operates smoothly for long trouble-free service.

*117" Lift...Floor to Forks
72" Clearance
47" Free Lift

MOBILIFT'S *"SIX-TEN"* solves a big problem when you need a fork-lift truck with *LOW* clearance and *HIGH* lift! The "SIX-TEN" gives you a *six* foot clearance and virtually a *ten* foot lift...floor-to-forks. The "SIX-TEN" easily enters truck bodies and low clearance doors, yet *tiers 3 pallets high.*

The "SIX-TEN" Mast is available on the versatile Model "E" (2,000-lb. cap.) and the EW (2,500-lb. cap.).

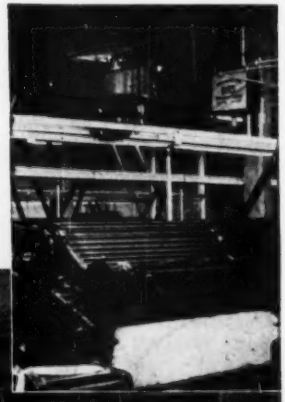
The H (3,000-lb. cap.) and HW (3,500-lb. cap.) models with SIX-TEN mast have a 110" lift floor-to-forks, 72" clearance, 45" free lift.

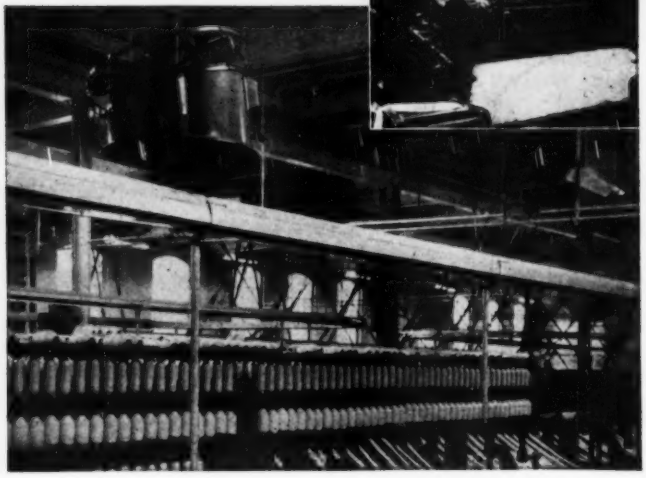
WRITE TODAY for Complete Specifications

MOBILIFT Lev-R-Matic DRIVE

MOBILIFT CORPORATION
835 S. E. MAIN ST., PORTLAND 14, OREGON
2317 W. 18th, CHICAGO • 790 Patterson Ave., E. RUTHERFORD, N. J.
1113 Spring St. N. W., ATLANTA • 2724 Taylor St., DALLAS
2730 San Pablo Ave., BERKELEY

The Up-draft Cleaner





Originally designed to be used with the Parks-Cramer Frame Cleaner (mounted on spinning, winding, twisting, and other frames), the Up-draft Cleaner has lately gained its independence and gone into the preparatory areas alone. It has proved particularly effective in the card room. Virtually all hand cleaning of upper areas is eliminated by this automatic, mechanical cleaner.

Operating on our standard track, it goes about its business without getting in the way of belts, shafting, or air conditioning ductwork, either present or contemplated.

With its continuously revolving column of air, it effectively cleans lights, pipes, conduits, and ductwork.

The Up-draft Cleaner is another worth-while investment in better textile mill housekeeping.

And what a difference a clean room makes!

Parks-Cramer Company

Fitchburg, Mass. PARKS Certified Climate Charlotte, N. C

Reader Service (Continued)

leaf folder made available by Dow Chemical Co. The folder describes physical and chemical properties of the products and also gives typical applications. **(F-27)**

"Progress in Peroxides" is the title of a 26-p. bulletin from Buffalo Electro-Chemical Co., Inc. The bulletin presents a composite picture of the properties and applications of both hydrogent peroxide and peracetic acid. Practical examples, tables, and diagrams are furnished. **(F-28)**

Soda ash—its properties, loading, unloading, handling, and storage are discussed in an expanded and revised edition of Technical & Engineering Bulletin No. 5 from Solvay Sales Div., Allied Chemical & Dye Corp. The new 61-p. edition contains both new material and revisions in addition to the charts and data that were included in the widely circulated previous edition. **(F-29)**

Organic chlorine compounds. The 11 organic chlorine compounds sold in commercial quantities by Carbide and Carbon Chemicals Co. are described in a recent booklet. An important feature of the new booklet is a section covering the specifications of the compounds as they are shipped . Uses and physical properties are also given. **(F-30)**

Wool dyers are offered a technical-data bulletin that describes the use of Telkanol O in a multitude of dyeing applications on wool. Put out by Dexter Chemical Corp., the chemical can be used with acid, after-chrome, and monochrome, dyestuffs; on wool mixtures; and on wool-cotton and wool-spun-rayon unions. **(F-31)**

ENGINEERING AND MAINTENANCE

Single-groove V-belts are described in a new bulletin issued by Raybestos-Manhattan, Inc. The new belts are said to eliminate vibration. New standardized belt numbers and a list of standard sizes of belts are included in the bulletin. **(F-32)**

Air heaters of both the portable and built-in types are described in a folder made available by Edwin L. Wiegand Co. Convection, blower, duct, and radiant types are shown, along with suitable automatic controls. Special sizes and ratings can be custom-made to suit requirements, although most units are standard stock. **(F-33)**

Corrosion-resistant fittings. Types and sizes of fittings now available in several stainless analyses are illustrated in a catalogue issued by Horace T. Pott Co. **(F-34)**

Stand-by emergency power is the subject of an article made available by Electric Machinery Mfg. Co. Written by an engineer, this article deals with the requirements of stand-by power, the types of service available, and a detailed discussion of controls for automatic start-stop operation. **(F-35)**

A chemical treatment that produces an oil-retaining, rustproof surface for moving metal parts is described in a new publication from Octagon Process, Inc. Methods of application and advantages of the product are given. **(F-36)**

Do you have an abrasion, corrosion, or high-temperature problem? A wide variety of cast and wrought alloy parts now being used in many industries to solve such problems is described in a new booklet from Haynes Stellite Co., Union Carbide and Carbon Corp. The metal parts described are made of the various cobalt-, iron-, and nickel-base alloys that have had wide use as metal-cutting tools, in chemical equipment, and in valves and furnace parts. **(F-37)**

Battery chargers. Compact and completely self-contained battery chargers that require no manual attention during the charge are described in a bulletin issued by The Electric Products Co. A simplified listing makes easy the selection of the right charger for any popular size of truck battery. **(F-38)**

Bronze valves of the renewable compo-

MEON MAGIC

When you apply MEON to cotton at the wet twisting operation, using from 1% to 3% solution in water, you'll agree MEON really works magic.

Here's Why:

• INCREASED BREAK STRENGTH

Since a considerable increase in BREAK STRENGTH can be obtained with MEON TREATMENT, many mills have found it possible to start with a shorter staple cotton and still produce a product meeting the minimum BREAK requirement *which formerly required a more costly raw material.*

• SETS THE STRETCH

MEON treatment is also an aid in maintaining the degree of elongation imparted to the yarn in processing, and produces *greater uniformity.*

Learn how MEON will benefit you and write for full particulars today.

Other MEON Uses

- As an emulsion or size inhibitor and stabilizer when dissolved first in ½% to 1½% solutions with water before emulsifiable oils or size compounds are added.
- As a fibre lubricant and softener when 1½% solutions are applied in the amount of 1½% – 2% total volume, by weight, on cotton, rayon, wool, or other wastes before reworking.
- As a surface active agent when using 0.1% to 0.5% solutions in innumerable applications where rapid wetting and increased penetration is desired.
- MEON in solution is used in connection with the garnetting of hard thread waste (both cotton and synthetic). Application is generally after garnetting, and gives more drag to the short fibres produced and thus permits more efficient carding and spinning.

BORNE SCRYMSER Since 1874

Our Laboratory Facilities are always at your disposal

BORNE, SCRYMSER COMPANY ELIZABETH, N. J. • CHARLOTTE, N. C.

Insure Uninterrupted Loom Performance *with* HEIM *Unibal* SWEEPSTICK

Heim Unibal Sweepsticks have reduced downtime and production losses in every mill where they are now in use.

The extra yardage produced through uninterrupted operation has been sufficient in every case to pay the initial cost of the sweepsticks many times over.

For smoother and softer pick action . . . for longer life . . . switch to Heim Unibal Sweepsticks.

This is the Heim Unibal Spherical Bearing which is assembled as an integral part of the sweepstick body. It replaces the usual loose fitting, oversize stud hole.

Write for prices and descriptive circular.

THE HEIM COMPANY

FAIRFIELD, CONNECTICUT

Reader Service (Continued)

sition disk type are featured in a circular distributed by Fairbanks Co. The valves that make up the group described include globe and angle valves, lift checks, spring-loaded check valves, and stop and check valves. **(F-39)**

Firebox linings. Plibrico monolithic linings for fireboxes and similar types of heating boilers are described in a bulletin issued by Plibrico Jointless Firebrick Co. The catalogue covers air-cooled as well as solid-refractory construction. **(F-40)**

A maintenance chart for Hyster lift trucks has been prepared by Wrenn Bros. The chart summarizes the job that should be done daily, weekly, monthly, and quarterly to get the most out of lift trucks. **(F-41)**

A periodic consultation service for users of petroleum products is described in a bulletin from Gulf Oil Corp. According to the catalogue, there are seven ways by which better lubrication can help you. **(F-42)**

Ball-bearing units. A complete line of ball-bearing units that are prelubricated, self-aligning, and equipped with a centrifugal labyrinth seal are described in a catalogue issued by Stephens-Adamson Mfg. Co. There are three pages of load ratings for units of various capacities. **(F-43)**

Two handy paint guides have been prepared by Tropical Paint & Oil Co. One chart tells how to select the right paint for every maintenance need. The other chart tells what to use on various surfaces. **(F-44)**

GENERAL

Electric fans for industrial, office, and home use are described in a catalogue issued by Diehl Mfg. Co. **(F-45)**

35% of your records should be destroyed, according to a brochure released by Remington Rand Inc. The brochure is intended to aid management in the intelligent planning for destruction of useless records and economical, safe storage of those records that are to be retained. **(F-46)**

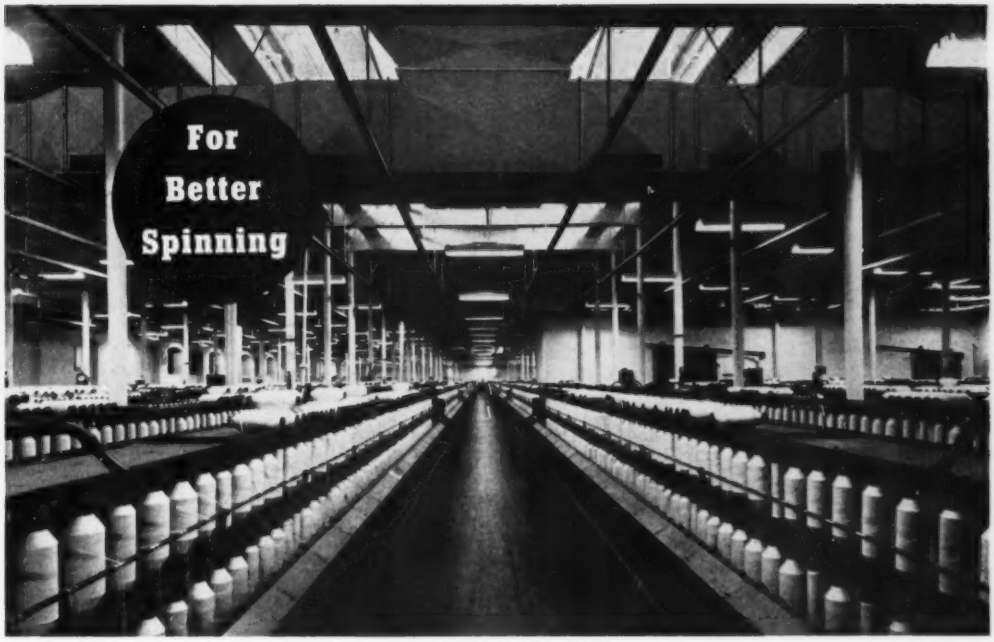
Are you troubled with dust? The Pangborn Corp. has prepared a bulletin entitled "The Control of Industrial Dust." Case histories of uses are documented with photographs and performance that indicate the savings achieved through the installation of dust-control equipment. **(F-47)**

A guide to better packing and shipping methods has been prepared by Signode Steel Strapping Co. Full of ideas for top management and production managers, the booklet is also of considerable value to traffic managers and shipping superintendents who are responsible for damage-free shipping of commodities. **(F-48)**

Details of a free fiber analysis are given in a pamphlet prepared by Star Woolen Co., Cohoes, N. Y. **(F-49)**

"Pack To Attract" is the title of a merchandising portfolio from The Hinde & Dauch Paper Co. Packages are salesmen too, according to the publication, and a good corrugated package stimulates the buying mood, puts the product under a spotlight, and tells a convincing story. **(F-50)**

if it's IRON,
if it's STEEL,
if it's SCRAP,
. . . put it back to work
NOW!



Bahnson CENTRAL STATION Air Conditioning

In this large Spinning Room, Bahnson Central Station Air Conditioning Systems control temperature and relative humidity for efficient operation. Improved yarn quality, reduced waste, and fewer ends-down are direct results. Machines can operate at higher speeds, regain is constant, yarn counts more even. Absenteeism is reduced and workers are more efficient in the comfortable atmosphere.

No one type of air conditioning apparatus is suited to all applications. Each fiber, each blend, each textile process requires careful study and selection of equipment so that the many benefits of air conditioning can be obtained most economically. Bahnson Central Station Systems can be designed to meet your exact needs because our engineers select from Type Y, Type DC, or Centrispray Air Washers. Bahnson manufactures the widest range of Humidification and Air Conditioning Equipment offered to the Textile Industry.

Another time and money saver for the Spinning Room is the Bahnson Type S Air Cleaner. It cuts maintenance cost by eliminating routine cleaning of lint screens at recirculated air openings. Cleaners may be used with unit or central station systems and require no replacement of filter media. Lint is automatically removed from the air and deposited in a receptacle—in most cases the lint can be fully reclaimed for further savings. No other lint filtering system costs so little—saves so much. Send for a copy of Bulletin 15A.

FULL VALUE . . . .
FOR YOUR AIR CONDITIONING DOLLAR

Bahnson Company
ENGINEERS AND MANUFACTURERS
WINSTON-SALEM, N. C.

How Would You Like to Recover 1,000 lbs. of Wool a Week?

FRED WHITAKER CO. DOES IT WITH FULLERGRIPT BRUSHES

The Fred Whitaker Co. of Philadelphia has conceived a process for recovering raw wool ordinarily lost down the sewer. The main sewer from the scouring and carbonizing machines — whose wash water contains the stray wool — empties into a shed-covered pit. At the bottom of this pit lies a perforated semi-cylindrical tank, open at the top. Revolving in the tank is the brushing apparatus — heavy Fullergript brush strips mounted on the ends of spindles protruding from a center shaft.

These Fullergript brush strips, filled with heavy, tough fiber, gather up the loose particles of wool as they brush along the inside of the tank. As the brushes hit the lip of a conveyor which parallels the top edge on one side of the tank, the wool fibers are flicked off onto the conveyor. This conveyor empties onto an elevator conveyor that brings the wool up and drops it into a waiting bin truck.

Previously the only method of recovering any wool was to pick up manually that which had accumulated on the iron bars at the sewer exit. About 80% of this wool was lost. Now 1000 pounds are recovered each week.

There may be an unusual application in *your* mill where Fullergript brush strips can provide the answer to real savings. For further information, write to . . .

FULLER BRUSH FULLERGRIPT At home... in business, too

THE FULLER BRUSH CO. • INDUSTRIAL DIVISION • 3594 MAIN ST. HARTFORD 2, CONN.

Useful Accessories For Textile Mills

▶ To request further information on any item please use the card in the Reader-Service dept.; refer to the number at the end of the item concerned.

Coolant Pump Magnet

After testing with as many as 50 units in one plant, a "Magnetool" low-cost coolant cleaner is now ready for general distribution on 10-day trial-order basis, Multifinish Mfg. Co., Detroit, Mich., has made known. The cleaner rod is recommended for tool-room grinders and lathes, or for light-production drilling, tapping, and valve-grinding machines. It is not for heavy production grinding. The magnetic unit 1¼-in. dia. by 8-in. long is suspended under the pump intake in the coolant tank. Floating steel particles are trapped by the magnet instead of being pumped back into the system to damage work and tools. The unit accumulates a mass of chips 4½-in. long and 1-in. thick around its entire circumference. (U-1)

Dry-Chemical Fire Extinguisher

The "Redi-Flo," a new, fast-flowing dry-chemical fire extinguisher that can be operated with one hand is now being marketed by Stop-Fire, Inc., Brooklyn, N. Y. Designed to eliminate faulty operation caused by clogging, the new unit contains an improved dry chemical developed after three years of research in the company laboratories. The smooth-flowing chemical is obtained by introducing an additive that coats the powder particles and forms a water-resistant skin over each crystal. Eliminated is the necessity of large quantities of the usual moisture-proofing ingredients that normally cut the fire-killing power of an ordinary dry chemical. A 5-lb. unit thus contains nearly 6% more sodium bicarbonate than an ordinary dry-chemical extinguisher. (U-2)

Electric Furnaces for Tool Hardening

Electric furnaces manufactured by Sentry Co., Foxboro, Mass., are reported to be giving uniformly hardened high-speed steel-cutting tools at Whitin Machine Works and Draper Corp. The electric furnaces are said to give absolute uniformity, plus swift, economical production. No distortion or troublesome "skin" appears on the tools. Daily production from one Sentry furnace at Whitin has been averaging 92 large pieces. Low maintenance costs are cited by Draper. (U-3)

Electronic Motor-Winding Tester

A newly developed, portable electronic

BENJAMIN "Magna-Flo" Systems Excel!

that's why Overall Lighting Costs are LOWER!

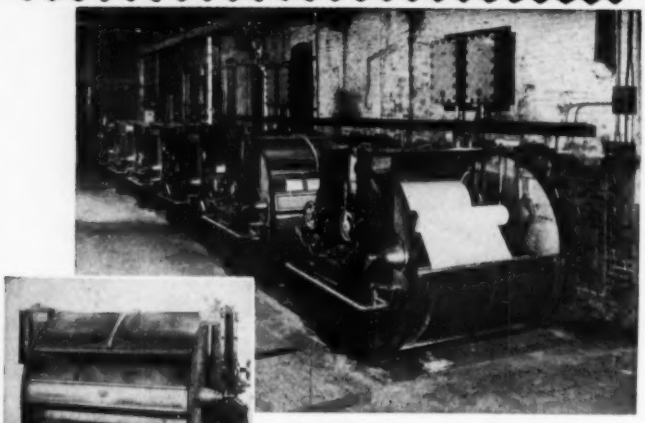
Because Benjamin "Magna-Flo" Systems excel by every Quality Standard—lighting, electrical and constructional—they can provide high illumination levels at low overall lighting cost. Such cost involves more than the original price of the units. Overall lighting cost also includes the costs of installation, operation, **maintenance and replacement. Add them all up and see why you're ahead with "Magna-Flo" Systems (individual unit or continuous line)—because "Magna-Flo" excels by ALL QUALITY STANDARDS!**

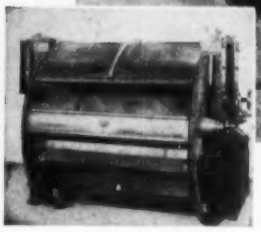
This chart gives some of the important reasons why:

"MAGNA-FLO" CUTS INSTALLATION COST	"MAGNA-FLO" CUTS MAINTENANCE COST	"MAGNA-FLO" CUTS OPERATION COST	"MAGNA-FLO" CUTS REPLACEMENT COST
wide variety of knockouts facilitate wire entrances into unit.	Porcelain Enamel reflecting surface is easy to keep clean with soap and water.	made for efficient utilization of high light output T12 Slimline lamps.	famous Benjamin "built-like-a-battleship" construction of heavy gauge steel.
complete line of sliding hangers.	exclusive "Springlox" lampholders make possible "quick-in, quick-out" lamp maintenance.	high power-factor ETL-approved ballasts for continuously-cool, efficient operation.	rigid channels and reflectors withstand toughest industrial vibration.
single, rugged channel coupling for continuous mounting.	Speedy, exclusive "Lok-Latch" reflector fasteners.	high reflection factor remains constant because genuine Porcelain Enameled reflector does not discolor or become dull with age.	96" reflectors are made in two sections, kept perfectly aligned by positive alignment clips.

FREE Bulletin AD-5705 brings you complete specifications on Benjamin "Magna-Flo" Lighting Systems—famous for "Task-Matched" Lighting Installations.
Benjamin Electric Mfg. Co., Dept. EE, Des Plaines, Ill.

NOW – for Better, Faster Dyeing of Synthetics with GLASCO DYE JIG ENCLOSURE





Enclosure in closed position

This enclosure now makes it possible to maintain controlled mean temperature throughout dyeing time of Nylons, Acetates and other Synthetics.

As a consequence, dyeing time is shortened. Uniform stripping is assured in redyeing or changing the color of a fabric. Chrome blues and other difficult colors can be jig-dyed. Colors are well dispersed, and level dyeing without shifting is possible. In soaping, temperature is prevented from rising too high and so causing a dull finish. Steam and water are saved.

Other advantages:

New design of hood saves space—no overhead obstructions, roller doors on bearings swing down and under jig when open — minimizes dripping — prevents steam blast toward operator when hood is opened — no cables, chains, counterweight posts to obstruct. Jig enclosure can be fitted to any jig — note big windows for easy observation of interior when jig is closed.

Manufacturers of modern, custom built metal equipment for wet processing uses, including Dye Jig Enclosures, Dye Tubs and Becks, Wash Tubs, etc. of stainless steel and other metals that resist corrosion under most alkali and acid conditions.

GLASCO EQUIPMENT CORP.

Pioneer Fabricators of Stainless Steel Equipment

10 WAIT STREET — GLASCO PRODUCTS — PATERSON 4, N. J.

Phila. Area: Marple Organization, 1200 Commercial Trust Bldg., Philadelphia 2, Pa.

New York State: P. W. Sanders, 1351 Broadway, Albany 4, N. Y.

South: Henry H. Hersey Co., 44 Norwood Place, Greenville, So. Car.

New England: Harris & Underhill, 446 Statler Bldg., Boston, Mass.

Useful Accessories (Continued)

winding tester so sensitive that it can detect a single shorted turn of #40 AWG wire has been brought out by Columbia Technical Corp., New York. This new production, maintenance, field-use, and laboratory instrument is designed to detect faults in and to prevent breakdowns of electrical motors and generators of all sizes and types, coils, and similar electrical equipment. Known as the PMD Tester, it enables the user in a matter of a few seconds to detect the location as well as the nature of an electrical fault in any type of winding. The presence and location of open circuits, shorts to ground, shorts between phases or between turns, reversed terminal connections, wire breakage, and material defects can be found in a minimum of time even with unskilled labor. Total weight of the unit is 13 lb. (U-4)

Fast-Setting Floor Patch

A fast-setting floor patch for floors that must be kept in continuous use—that's how the makers describe "Instant-Use," a patch for broken concrete, brick, stone or asphalt floors developed by Flexrock Co., Philadelphia, Pa. Where an ordinary concrete patching job requires 36- to 50-hr. setting time, a patch of Instant-Use can be trucked over immediately, according to the manufacturer. In fact, the movement of heavy traffic is said to help this product to set smoothly in place. Application of the ready-mixed patching material is very simple. The spot to be patched is primed, the material is scooped from the container into the hole, tamped lightly . . . and the surface is ready for use. The patch bonds to the irregular edge of the broken floor to a smooth, lasting feather edge. It will stand up under very heavy loads and is non-sparking and fireproof. (U-5)

Guardrail for Industrial Plants

"Flex-Beam" guardrail, manufactured by Armco Steel Corp., Middletown, Ohio, is now being used to protect walls, partitions, parking lots, and other "bump-spots" in industrial plants. The guardrail is used both inside and outside plants, wherever there is danger of tow-trucks and cars bumping into walls and stationary equipment. The rail is beam-type, deeply corrugated for strength and erected without tension. It is fabricated from semi-spring quality steel and punched for mounting on 12-ft. 6-in. centers. Splicing is by seven heat-treated high-carbon bolts. A waterproof, rust-inhibiting paint primer is applied after fabrication. (U-6)

Hardening Concrete Floors

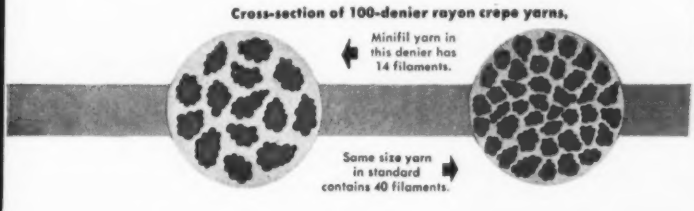
A new, improved liquid treatment that hardens and dustproofs concrete floors to withstand extra-heavy trucking has been put out by Monroe Co., Inc., Cleveland, Ohio. Known as Concrete-Floor "Hardner" No. 860, this clear, colorless liquid is reputed to change the chemical structure of concrete on which it is applied, forming a dense, non-porous, flint-like surface that retards dusting and rutting even under heaviest traffic. By granitizing surface particles, the product also increases the general strength of a concrete floor and retards

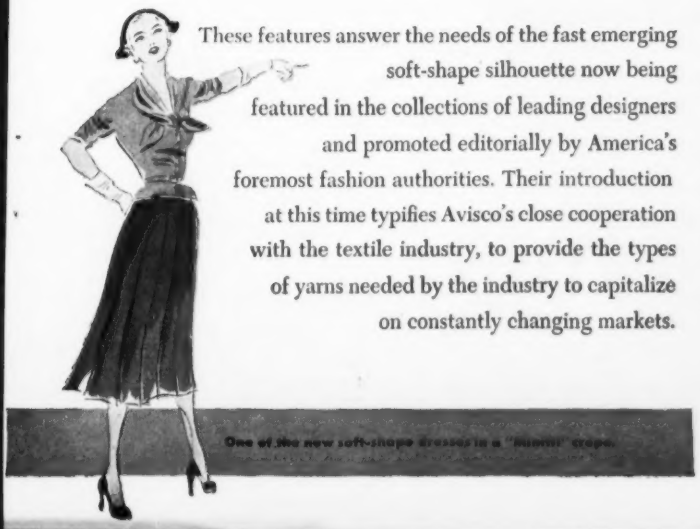
Rayon Reports

AVISCO INTRODUCES NEW "MINIFIL" CREPE YARNS

Provide new crepe effects to meet current fashion requirements

The demand by women's ready-to-wear designers for "Something new in crepes" is being met by the newly-developed Avisco "Minifil" yarns. As the name implies, these yarns contain the minimum number of filaments required to obtain proper performance in specific yarn sizes. For example, the standard 100-denier crepe yarn contains 40 filaments. 100-denier Minifil yarn consists of 14 filaments. Woven into crepes and other fashion fabrics these yarns impart a hand that is firmer and crisper with excellent draping characteristics.


Cross-section of 100-denier rayon crepe yarns.
Minifil yarn in this denier has 14 filaments.
Same size yarn in standard contains 40 filaments.



These features answer the needs of the fast emerging soft-shape silhouette now being featured in the collections of leading designers and promoted editorially by America's foremost fashion authorities. Their introduction at this time typifies Avisco's close cooperation with the textile industry, to provide the types of yarns needed by the industry to capitalize on constantly changing markets.

One of the new soft-shape dresses in a "Minifil" crepe.

Ankle-length hose by Baker-Cammack Hosiery Mills, Burlington, North Carolina

Avisco Filatex and rayon yarns important factor in volume market for men's hosiery

Volume hosiery producers are turning more and more to Avisco Filatex and rayon yarns to meet consumer demand for men's hose that combines excellent styling and maximum quality at a reasonable price. Filatex has been particularly important in influencing the trend to self-supporting socks. Its lasting elasticity, durability and good laundering qualities are contributing to the wearing qualities and sales appeal of socks in all price ranges.

MAKE USE OF *Avisco*® 4-PLY SERVICE

To encourage continued improvement in rayon fabrics, American Viscose Corporation conducts research and offers technical service in these fields:

1 FIBER RESEARCH
2 FABRIC DESIGN
3 FABRIC PRODUCTION
4 FABRIC FINISHING

AMERICAN VISCOSE CORPORATION

World's largest producer of man-made fibers
RAYON ACETATE VINYON* FILATEX

Sales Offices: 350 Fifth Avenue, New York 1, N. Y.; Charlotte, N. C.; Cleveland, Ohio; Philadelphia, Pa.; Providence, R. I.

*TMC & CCC

You Need Burlap! We Have it!

and here are 4 reasons why Bemis is Your Best Burlap Source . . .

1 You Benefit from Our Large Operations

Bemis is the largest burlap importer. Whatever the supply situation, Bemis customers are in the most favorable position.

2 You Benefit from Our Knowledge of Quality of Burlap

For many years, producers and users alike have accepted Bemis' grading of Indian burlap as the standard for the industry.

3 You Benefit from Our Knowledge of the Burlap Market

We follow the market daily in our regular operations.

4 You Benefit from Bemis' Large Facilities

Sixteen plants and seventeen additional sales offices, all strategically located, assure you a dependable source of supply.

Bemis is headquarters for all grades and weights of burlap . . . including widely-used 10-oz., and the popular, special-finish Angus, which only Bemis imports.

Bemis

Baltimore • Boise • Boston • Brooklyn • Buffalo • Chicago
Charlotte • Cleveland • Denver • Detroit • Indianapolis
Houston • Jacksonville, Fla. • Kansas City • Los Angeles
Louisville • Minneapolis • New Orleans • New York City
Memphis • Norfolk • Oklahoma City • Omaha • Phoenix
Philadelphia • Pittsburgh • Salt Lake City • San Francisco
St. Louis • Salina • Seattle • Vancouver, Wash. • Wichita

Reader Service (Continued)

cracking and chipping under heavy loads. Easily applied by brush or mop, the liquid is also reported to lower cleaning and maintenance costs and to resist water, oil, and acid. (U-7)

Improved 40-W. Fluorescent Lamp

Development of a new type of fluorescent lamp that improves in many ways upon the performance of lamps now in general use has been announced by General Electric Co., Cleveland, Ohio. The outgrowth of nearly seven years of research and testing at the company lamp-development laboratories, the new lamps start quickly and smoothly without the aid of external starters and do not blink or flicker at any time throughout their lives. Named "Rapid Start," the new lamps are to be used with especially designed ballasts, and are intended only for new lighting systems. They are being made in the 40-w. size in the standard cool-white color. Other colors are planned. (U-8)

Laminated Sizing Cylinders

A special moisture-resistant machining grade of GE "Texolite" laminated-plastic tubing has been developed for textile applications at the GE Chemical-Division plant in Coshocton, Ohio. It is presently being used for the manufacture of sizing cylinders by Wood Plastics Co., Wayne, Pa. Development work on this application has produced sizing cylinders of exceptional durability and long service. The cylinders have excellent moisture resistance as well as the high caustic and acid resistance that is necessary in the throwing of nylon and silk. Light tan in color, there is no danger of color bleed. The cylinders measure 7 in. long, have an interior diameter of 5⅛ in., and a wall thickness of ¼ in. The exteriors of the concentric sizing cylinders are sanded and buffed to produce a smooth finish. (U-9)

Low-Cost Dumbwaiter

A new, low-cost, power-driven dumbwaiter for conveying up or down and between floors has just been announced by Sage Equipment Co., Buffalo, N. Y. The unit is self-contained, compact, and is available with automatic push-button control stations. The standard cab is 3x3x4 ft., equipped with removable shelves, opening on one, two or three sides, or with roller bed. In some cases, a special platform without a cab provides more efficient conveying of material. The completely enclosed drive unit is equipped with a compact, high-starting-torque gear-in-head motor, built-in magnetic disk brake, and grooved winding drum for the high-capacity plough-steel wire rope that raises and lowers the cab. The standard unit has a load capacity of 500 lb. and meets State codes. (U-10)

Low-Cost Flange Sleeve Bearing

A compact, self-aligning, sleeve-bearing unit has been designed for light shaft duty and power-take-off application on all types of sheet-metal fabrication, according to the manufacturer, Randall Graphite Bearings, Inc., Lima, Ohio. The flange mounting is

How does U. S. Rubber make quills water-resistant?

Here's how: By making them of Uscolite, the remarkable new rubber-plastic compound. Quills made of this wonderful material not only are resistant to water, but they retain their shape throughout their entire service life. They last two to three times longer than wooden quills.

Not only that, but Uscolite quills do not chip or splinter, nor do they soften at the tip when run through conditioning agents. They have high-surface friction, which means excellent holding properties which eliminate or minimize sluffing of the yarn.

Like every other product in the complete line of United States Rubber Company's textile mill specialties—all the way from warp tubes to cop butts, Uscolite quills *last longer* and permit a *higher quality* of textile output. Write for more information today.

PRODUCT OF U.S.RUBBER SERVING THROUGH SCIENCE

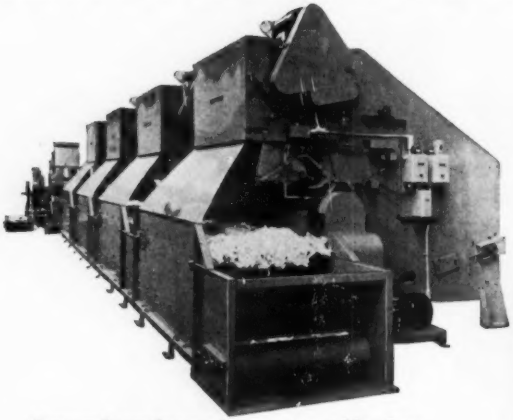
UNITED STATES RUBBER COMPANY

MECHANICAL GOODS DIVISION • ROCKEFELLER CENTER, NEW YORK 20, N. Y.

3 important advantages

ARE YOURS WITH A

PROCTOR BLENDING SYSTEM



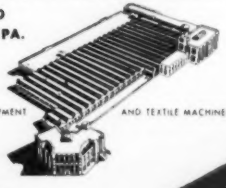
System is engineered to your specifications
Thorough blending within 1%
Last yarn made from blend is identical with the first

Whether the Proctor blending system installed in your mill is semi or fully automatic you can be sure it will be engineered in every detail to your individual requirements . . . and because of this will offer you many important profit-making operating advantages. In many mills using Proctor equipment blending is so thorough and accurate that the variance in the blend is less than 1%. Not only is the mix properly proportioned—but the proportion remains the same throughout the run. This means that the last yarn made from the mix is identical with the first. This is especially important in the blending of synthetics. The system illustrated consists of several weighing feeds with skewing aprons set over a constantly moving long apron which feeds to a picker. The number and kinds of units to be incorporated in a system depend upon many factors which are revealed by a detailed discussion of your specific blending problem. Call on Proctor engineers today to show you how a Proctor system can increase your profit.

Much Proctor drying equipment and textile machinery is covered in full or in part by patents and patents pending.

PROCTOR & SCHWARTZ • INC •

710 TABOR ROAD
PHILADELPHIA 20 • PA.



MANUFACTURERS OF INDUSTRIAL DRYING EQUIPMENT AND TEXTILE MACHINERY

Useful Accessories (Continued)

made of 16-gauge steel press-shaped to conform with the spherical shape of the ball assembly. The ball assembly is a machined cast-iron hollow ball in which an oil reservoir is formed when the bushing is pressed into place. Oil is fed to the bearing surface by the capillary action of the sintered bushing or the graphited bushing, whichever is required. The bearing assembly measures $3\frac{1}{2}$ in. in diameter by $1\frac{1}{4}$ in. and is available with sintered bushing for shaft sizes from $\frac{1}{2}$ to 1 in. and with graphited bushings in sizes $\frac{1}{2}$, $\frac{5}{8}$, and $\frac{3}{4}$ in. (U-11)

New Brazing Alloy

A new copper-phosphorous-silver alloy, Phos-Silver, for efficient brazing of copper, brass and bronze, is available from Westinghouse Electric Corp., Pittsburgh, Pa. Extreme fluidity and good wetting properties enable this new alloy to penetrate tight-fitting joints instantly to form strong ductile bonds. Phos-Silver can be used with any of the common brazing methods for brazing on copper or copper alloys, and is said to be ideally suited for applications where brazing temperatures are critical. (U-12)

Patented Screw Anchor

Utilizing the rigidity of steel to supplement lead as an anchoring medium, Super-Grip Anchor Bolt Co., Inc., Philadelphia, Pa. has developed a new screw anchor that is easily installed and provides increased anchorage strength and resistance to vibration. The patented "Super-Grip" screw anchor can be used wherever machine screws, stove bolts, or wood screws must find an anchor in brick or masonry. The new product provides solid anchorage and prevents loosening and pulling out even under the toughest conditions of vibration or strain. The principle features are a threaded insert, lead sleeve, and a cup-shaped fluted steel anchor. When driven into place, the lead mushrooms out and then the steel anchor collapses, forcing sharp edges into the masonry and the threaded component. Thus steel reinforces lead to make an anchor that won't pull out. (U-13)

Plug-In Alarm Unit

"Tel-Alarm," new type of automatic alarm unit for remote signalling of failure or other-than-normal operation of valves, pumps, heaters, and other kinds of equipment in process operations has been announced by Tigerman-Anderson Co., Chicago, Ill. The alarms are of "unitized" construction, permitting a great variety of circuit arrangements from one basic alarm unit. Such is possible because of a switchboard circuit header that is wired into the basic relay in different ways, depending on the circuit desired. All Class-1, Division-2 applications are approved for the new alarm. The hermetically sealed units are very suitable for all general-purpose uses because of their moisture and corrosion-proof construction. Units are self-contained and plug in to the standard chassis as easily as a vacuum tube. Two types of signal lights are available. (U-14)

Pouring Liquids Without Spilling

A pouring spout and tilter manufactured by General Scientific Equipment Co., Philadelphia, Pa., provides a safe and easy method of pouring liquids into smaller containers. A chain is provided to hold the bottle in position when tilted. The cradle is made of steel. All members are riveted or welded to insure a strong and durable unit for this purpose. A safety air-vent pouring spout fits any size bottle and assures a smooth even flow without spurts or splashes. This unit is made of a special acid-resistant rubber and plastic tubing for long life. The cost of the complete unit is $9.95. (U-15)

"Raincoat" for Masonry

Water bounces off walls treated with "Stonseal," the manufacturer Stonhard Co., Philadelphia 2, Pa., says. This new water-repelling liquid chemical is a seal that provides an invisible "raincoat" for brick, concrete, stucco, and other masonry. By forming a lining in the microscopic pores of the masonry, it changes the capillary force from one of sucking in water to one of shedding water, and at the same time allows masonry to "breathe." The new seal cannot discolor or change the texture of the surface. It leaves no film—nothing to wear away. It is acid and alkali-resistant, unaffected by salt spray, and can be applied at any temperature. (U-16)

Rotary Roof Cooler

A rotary roof cooler that sprays a film of water over a roof to dissipate heat by evaporation is being marketed from Los Angeles, Calif., by Siegfried Ruppright. The device is claimed to reduce greatly the indoor temperature of buildings, or where this is controlled, the load on the cooling machinery. The cooler is assembled on a standard brass coupling for attaching to a water pipe and consists of a nozzle and a water wheel. A jet of water shoots from the nozzle at the best ballistic angle over the space to be cooled. It also sets the wheel in motion which in turn rotates the cooler to make it serve a large area. No electricity is used. (U-17)

"Safety" Hand Drift

Combining unusual features of safety and economy, the production of the "Flex-Flo Safety Handrift," has been announced by Custanite Corp., Larchmont, N. Y. In set-up work with machine tools or wherever it is necessary to pound a finished surface without causing marring, especially where working space is limited, the new hand-drift overcomes the hazards and high hidden costs of improvised hand drifts, by means of the following features: riveted pinning that prevents the head from flying off the non-slip handle; a special analytically-controlled alloy that can't chip, flake, or spark; extreme durability while providing mushroom-free service. The drift is guaranteed by the manufacturer to outlast "ordinary drifts" up to 30 times. (U-18)

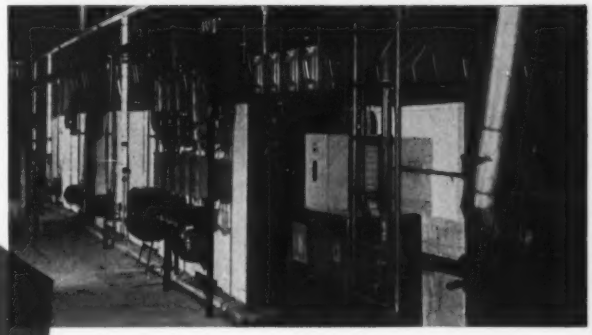
Static-Charge Detector

A highly sensitive static detector is an-

3 important advantages

ARE YOURS WITH A

PROCTOR LOOP AGER



Production increased 3 to 4 times per operator

Floor space cut in ½ per yard of cloth processed

Versatility permits aging a wide range of types of fabrics

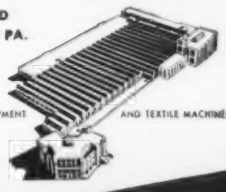
The new Proctor loop type ager—introduced to the industry only a short while ago—is producing truly remarkable results. A careful check of this modern machine for aging vat colors on printed fabrics reveals that it combines all of the features essential to good aging.

In addition to the three advantages which are highlighted above—the ager operates with a lower steam consumption than older types; there is virtually no leakage of steam; uniformity is excellent for the full length and width of the fabric and the danger of water spots, mark-off and broken selvages common to other types of agers has been eliminated. During the critical part of the aging cycle the printed face of the cloth is not in contact with rolls or other supports and is uniformly exposed to steam atmosphere. For more complete information write today.

Much Proctor drying equipment and textile machinery is covered in full or in part by patents and patents pending.

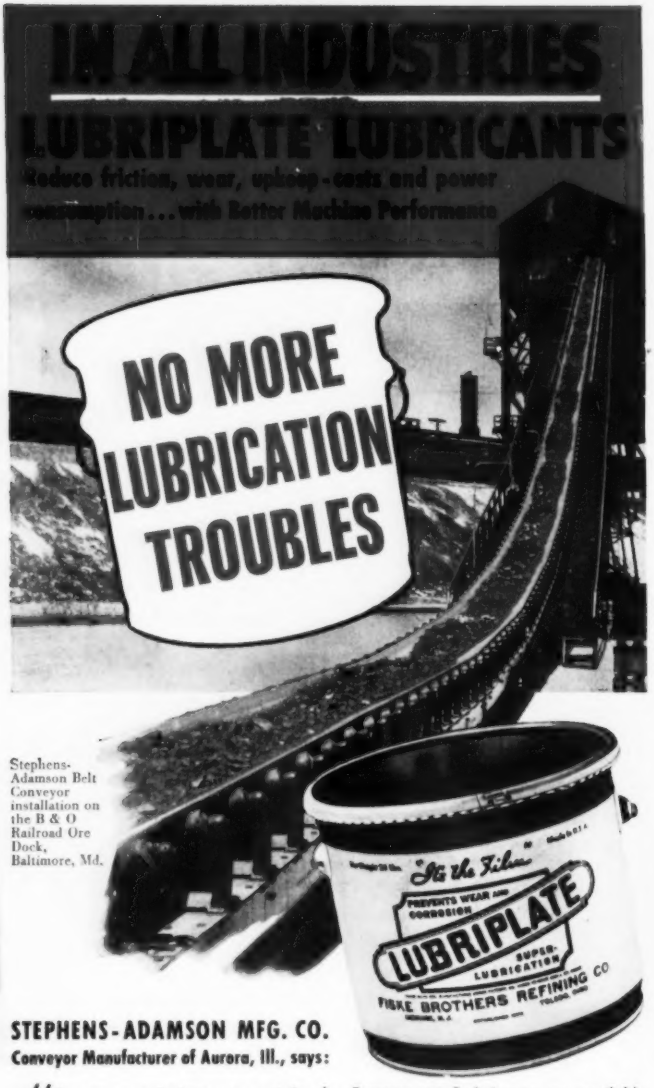
PROCTOR & SCHWARTZ · INC ·

710 TABOR ROAD
PHILADELPHIA 20 • PA.



MANUFACTURERS OF INDUSTRIAL DRYING EQUIPMENT AND TEXTILE MACHINERY

For more information, write direct or use Reader Service post card.


IN ALL INDUSTRIES
LUBRIPLATE LUBRICANTS
Reduce friction, wear, upkeep-costs and power consumption... with Better Machine Performance
NO MORE LUBRICATION TROUBLES
Stephens-Adamson Belt Conveyor installation on the B & O Railroad Ore Dock, Baltimore, Md.
"At the Fiber"
PREVENTS WEAR AND CORROSION
LUBRIPLATE
SUPER-LUBRICATION
FISKE BROTHERS REFINING CO
TOLEDO, OHIO

STEPHENS-ADAMSON MFG. CO.
Conveyor Manufacturer of Aurora, Ill., says:

"LUBRIPLATE Lubricants satisfy the "one-shot" requirements of our conveyor idlers. When introduced through the fitting on either side of the idler, LUBRIPLATE effectively lubricates each bearing in turn and flows through the hollow shaft to the next bearing. We do not know of a single case of bearing trouble through faulty lubrication where LUBRIPLATE has been used."

LUBRIPLATE Lubricants are available from the lightest fluids to the heaviest density greases. There is a LUBRIPLATE Product best for your every lubrication requirement. Let us send you case histories of savings that others in your industry are making through the use of LUBRIPLATE Lubricants. Also packed in handy tubes for portable tools, guns, fishing reels, lawn mowers and household uses.

LUBRIPLATE DIVISION
Fiske Brothers Refining Company
Newark 5, N. J. Toledo 5, Ohio

Dealers Everywhere...
Consult Your Classified Telephone Book

LUBRIPLATE *The Modern Lubricant*

Useful Accessories (Continued)

nounced by Keithley Instruments, Cleveland, Ohio. Designated the Model 2005 static detector, the device clips onto a Keithley vacuum-tube Electrometer, providing a convenient combination for detecting and locating static charge. The new Electrometer accessory consists primarily of two concentric tubes and an aluminum rod. When clipped over the HI terminal electrode of the Electrometer, the tubes provide shielding that gives charges along the cylinder axis the most effect. Results are qualitative and observed by noting the deflection of the meter pointer. Sensitivity can be varied over a wide range by raising or lowering the inner tube. With the tube lowered, a charged pocket comb, for example, can throw the pointer off scale from a distance of 10 ft. (U-19)

Work Benches Provide Storage

Work benches, whose standard units can be tailored to fit space and other needs and whose big storage facilities permit uncluttered working tops, have been developed by Standard Pressed Steel Co., Jenkintown, Pa. A new addition to the SPS Hallowell line of shop equipment, the new work benches, identified as the "640" Series, can be used as continuous benching or as single work stations. They come in three basic models. Model 640 is made up of a top, two pedestals—one a drawer unit and the other a cabinet unit—and two bases. Model 643 includes a top, two drawer units, and two bases. Model 646 is assembled with top, two cabinet units, and two bases. Heights of 31¼ and 33½ in. are available. (U-20)

Books of Interest

THE DEVELOPMENT OF SOME MAN-MADE FIBERS, by A. R. Urquhart, H. J. Hegan, and G. Loasby; The Textile Institute, 10 Blackfriars St., Manchester 3, England; 79 pp., $1.75.

This book contains papers delivered by the authors at the Annual Conference of The Textile Institute in 1951. The papers are entitled, "Cellulosic-Derivative Rayons —Past, Present, and Future," "The Historical Development Of and The Outlook for Viscose Fibers," and "The Development of the Synthetic Fibers."

The papers are largely historical in scope, but trace the development of the fibers, especially the cellulosics, in detail from early beginnings to the present. The third paper traces development of most

FEATURE FOR FEATURE...

DRY CHEMICAL

FIRE EXTINGUISHERS

are your best buy!

● These fast, positive fire killers are easy to operate, compact, well-balanced and offer extensive maneuverability indoors or outdoors... no extra gadgets protruding or complicated operating parts. The outstanding mechanical breakage feature of C-O-TWO Dry Chemical Type Fire Extinguishers, plus continuous inert gas pressured agitation or fluffing, together with a skillfully blended free flowing dry chemical guarantee lasting, foolproof fire protection. All sizes are rechargeable on-the-scene by anyone... no special tools required.

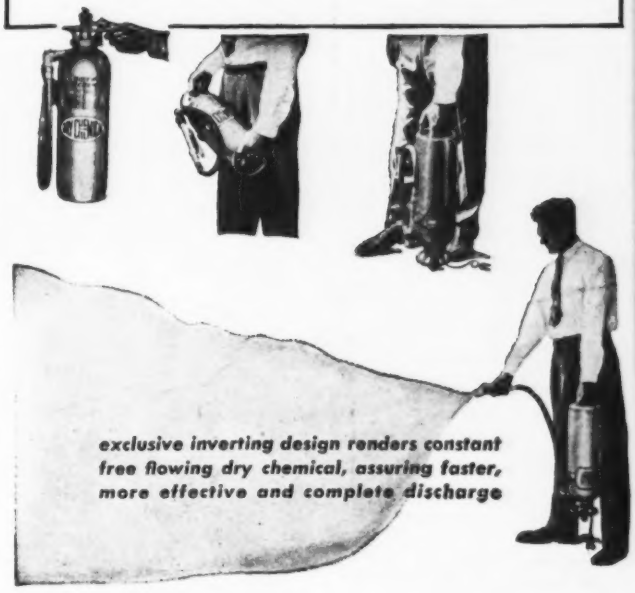
C-O-TWO Dry Chemical is a finely pulverized powder... non-conducting, non-corrosive, non-abrasive, non-freezing and non-toxic... special compound consists of sodium bicarbonate and other chemicals skillfully blended to render high fire extinguishing qualities, remain free flowing while being used and withstand long periods of storage without deterioration. When brought into contact with fire, C-O-TWO Dry Chemical absorbs a greater part of the heat, decomposes and releases fire killing gases. This heat absorption process acts as an insulating screen for the fire fighter.

Fully approved and built to rigid specifications... C-O-TWO Dry Chemical Type Fire Extinguishers are exceedingly effective on flammable liquid, gas and electrical fires, as well as surface fires involving ordinary combustible materials... rated by Underwriters' Laboratories, Inc. and Factory Mutual Laboratories for class B and C fires.

Convenient 4, 20 and 30 pound hand sizes... no syphon tubes or valves within the cylinder to become clogged or inoperative... discharge hose and squeeze type discharge nozzle remain empty until actuation takes place... one piece removable top assembly.

Also, convenient 150 pound wheeled size... sturdy, wide-faced wheels... discharge hose and two position discharge nozzle having soft or solid stream fully enclosed in protection casing... footrail and dual bar handle provide easy inverting.

Act now for complete free information on these top quality fire extinguishers. Remember... you can't put fire off... fire doesn't wait. Get the facts today!



exclusive inverting design renders constant free flowing dry chemical, assuring faster, more effective and complete discharge

C-O-TWO FIRE EQUIPMENT COMPANY

NEWARK 1 • NEW JERSEY

Sales and Service in the Principal Cities of United States and Canada

Affiliated with Pyrene Manufacturing Company

MANUFACTURERS OF APPROVED FIRE PROTECTION EQUIPMENT

Squeez-Grip Carbon Dioxide Type Fire Extinguishers • Dry Chemical Type Fire Extinguishers • Built-In Smoke and Heat Fire Detecting Systems
Built-In High Pressure and Low Pressure Carbon Dioxide Type Fire Extinguishing Systems

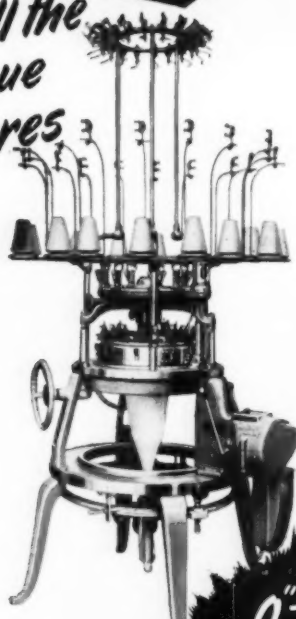
The New

Mellor—MB1—Bromley

INTERLOCK

Multifeeder and stripe or check pattern machines

with all the unique features



9"-30" DIAMETERS

20-24 CUTS

★

Send for full details, to the builders of more than 7000 Interlock machines operating successfully in almost every country in the world.

K17A

MELLOR BROMLEY & CO. LTD

LEICESTER · ENGLAND ·

non-cellulosic fibers, including foreign ones, and gives information on properties and production of each.

SILK, Biology, Chemistry, Technology, by Dr. Paolo Carboni, Silk Experiment Station, Milan, Italy; Chapman & Hall Ltd., 37 Essex St., London, W. C. 2, England; cloth, 248 pp., $5.25.

This book, a standard work in Italy, has been revised and brought up-to-date for this English-language edition. The field covered is from the cocoon through dyeing of fabric. Chapters cover these subjects as well as reeling, testing, throwing, analysis, waste-silk processing, and properties of the fiber.

COTTON AND COTTON FUTURES, The New York Cotton Exchange, 60 Beaver St., New York 4, N. Y., 40 pages.

This booklet explains clearly and in non-technical language the function of the Cotton Exchange and such terms and activities as futures, hedging, etc.

WOOLEN AND WORSTED MANUFACTURING IN THE SOUTHERN PIEDMONT, by James A. Morris; University of South Carolina Press, Columbia, S. C.; 197 pp., $5.00.

A review of why some woolen and worsted mills have located in the Southern states is the subject matter of this book. Reasons cited include lower taxes, lack of unionization, better attitude toward mills on the part of state and municipal governments, lower construction costs, lower wages, milder weather, etc.

Other Books Received

Subcontracting for Defense—How to Sell Companies Holding Defense Contracts, Dept. of Manufacture, Chamber of Commerce of the U. S., Washington 6, D. C. 32 pp., 50¢.

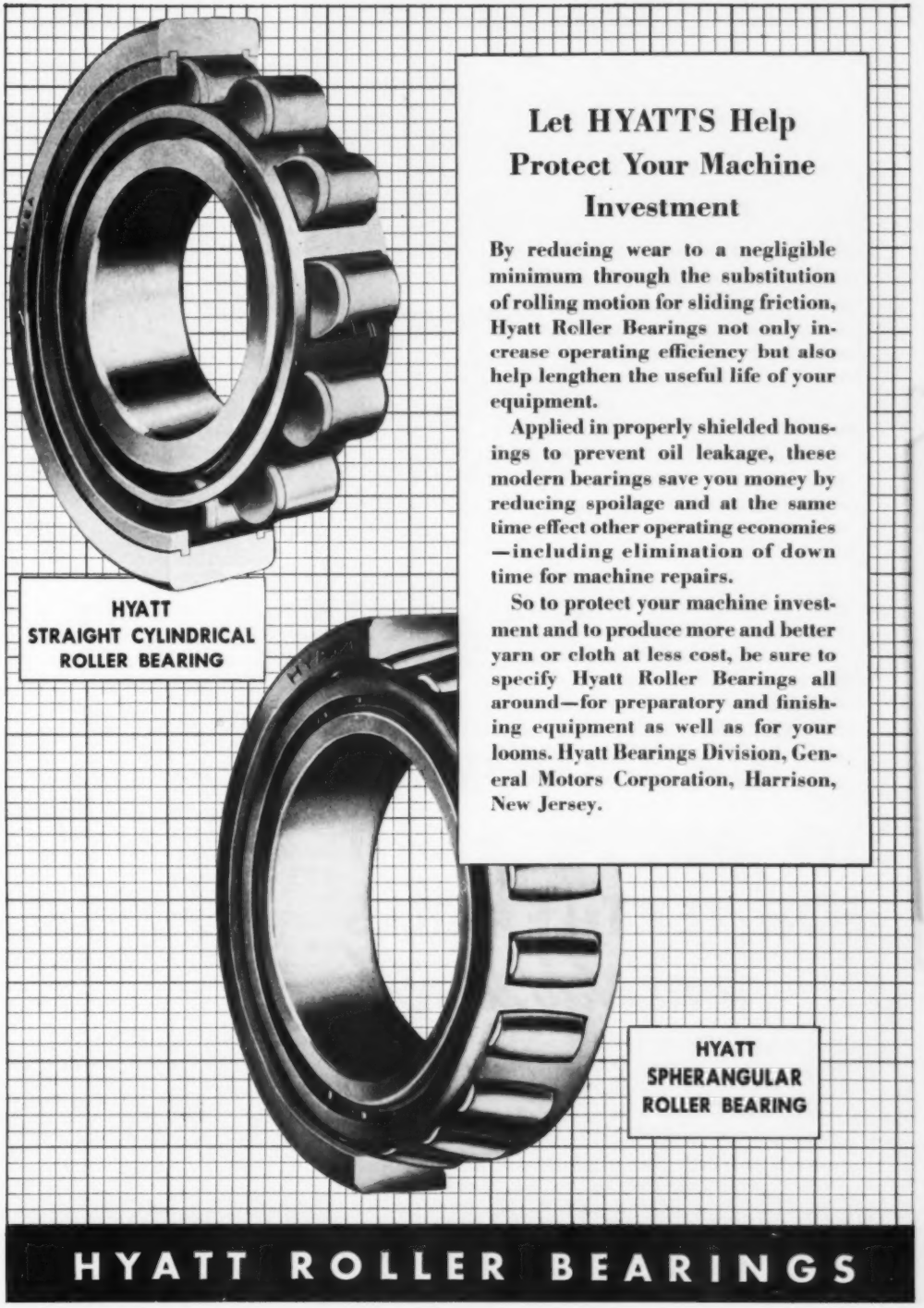
1951 Index to ASTM Standards, American Society for Testing Materials, 1916 Race St., Philadelphia 3, Pa.; 274 pp.

Petroleum Dictionary and Products Manual, Petroleum Educational Institute, 9020 Melrose Ave., Los Angeles, Calif.; 502 pp., 6,164 entries, 2,113 illustrations, $8.00.

POLIO POINTERS

► POLIO, the only epidemic disease still on the increase in the United States, has tripled its attack rate since 1948. To prevent the spread of polio, the National Foundation for Infantile Paralysis suggests the following precautions:

1. Wash hands carefully before eating.
2. Don't get overtired or chilled. Both conditions lower resistance to polio.
3. Avoid mingling with strangers, especially in crowds.
4. Watch for these symptoms: headache, sore throat, fever, upset stomach, and stiff neck. If they appear, call your doctor.



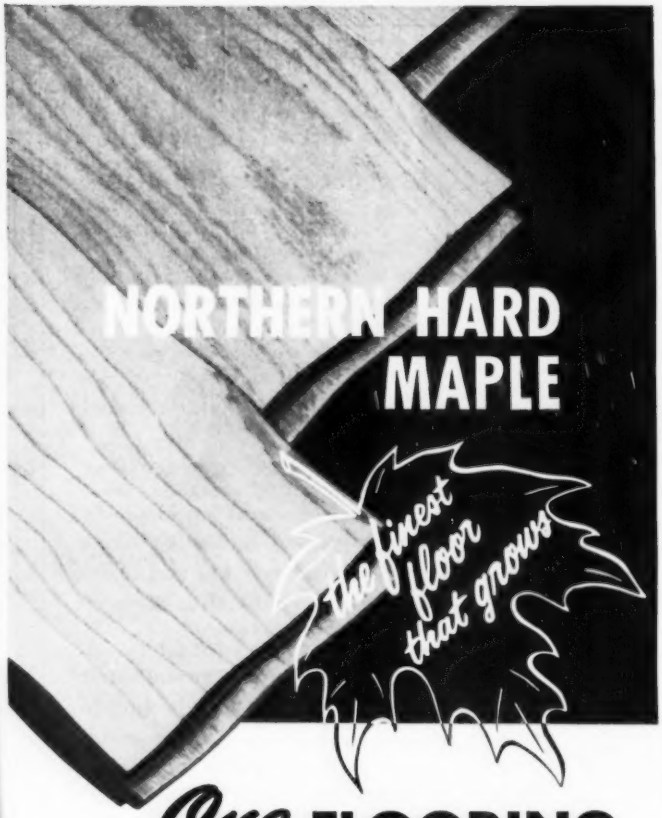
Let HYATTS Help Protect Your Machine Investment

By reducing wear to a negligible minimum through the substitution of rolling motion for sliding friction, Hyatt Roller Bearings not only increase operating efficiency but also help lengthen the useful life of your equipment.

Applied in properly shielded housings to prevent oil leakage, these modern bearings save you money by reducing spoilage and at the same time effect other operating economies —including elimination of down time for machine repairs.

So to protect your machine investment and to produce more and better yarn or cloth at less cost, be sure to specify Hyatt Roller Bearings all around—for preparatory and finishing equipment as well as for your looms. Hyatt Bearings Division, General Motors Corporation, Harrison, New Jersey.

HYATT ROLLER BEARINGS



One FLOORING
IS proved RIGHT
FOR TEXTILE MILLS
and this is it!

And this is *why:* Northern Hard Maple is *resilient.* It is bright and smooth and tight. It is warm and dry and doesn't splinter. Simple brushing cleans it. It's easily re-surfaced. It's hard to dent or scuff. It creates no dust, catches no lint. *Everybody* likes to walk on it, stand on it, *work* on it. *See Sweet's* Arch.13K/MAfor data, or write:

MAPLE FLOORING MANUFACTURERS ASSOCIATION
Suite 592, Pure Oil Building, 35 E. Wacker Drive
CHICAGO 1, ILLINOIS

FLOOR WITH NORTHERN HARD MAPLE
BEECH AND BIRCH

Mill Maintenance

Keep Your Lift Trucks Running

Five- and six-day operation of lift trucks can cut heavily into truck life and can reduce the efficiency if proper maintenance procedures aren't followed.

Wrenn Brothers, Charlotte, N. C., distributor of Hyster trucks, has developed a maintenance chart to show how to care for lift trucks.

Daily Check—30 min.

1. Clean and refill the air cleaner with SAE 20 engine oil
2. Fill the gasoline tank
3. Inspect the oil level of the motor and refill the oil reservoir when it is below level
4. Remove the air shrouds and clean them with an air hose
5. Blow off the flywheel screen
6. Grease all the Alemite fittings and fill all the oil holes with oil
7. Inspect, and tighten if necessary, the hanger-bar bolts
8. Inspect the drive belts on the generator and hydraulic pump for tightness
9. Lubricate the pilot bushing

Weekly Check—1 hr.

1. Drain and refill all oil reservoirs
2. Grease all Alemite fittings and fill all the oil holes with oil
3. Inspect the oil level in the hydraulic tank
4. Inspect the brake fluid
5. Clean the entire truck and the engine
6. Check the tire pressures
7. Inspect the generator
8. Inspect all the bolts and fittings for tightness, and tighten loose parts
9. Check the battery and add water to the battery cells

Monthly Check—1½ hr.

1. Change the oil filter element
2. Inspect the contact points and spark plugs
3. Inspect the entire wiring and electrical system
4. Lubricate all the lubrication points

Quarterly Check—2½ hr.

1. Drain the transmission and refill with SAE 90 hypoid gear lube
2. Drain the hydraulic unit and refill with SAE 10 motor oil
3. Inspect and adjust the steering mechanism
4. Inspect and adjust the brakes
5. Lubricate all the lubrication points
6. Check the wheel adjustment

One employee should service the lift trucks, and he should be held responsible for the mechanical condition of all the trucks.

ERIEZ MAGNETS CATCH TRAMP IRON; PREVENT FIRE, DAMAGE TO GARNETTS

.....National Automotive Fibers, Inc., Los Angeles, manufacturers of cotton felt upholstery and automotive pads, want no part of any tramp iron inclusions in their cotton linters. The company installed 17 *ERIEZ* plate-type ATOMagnets above spiked apron feeders leading to garnetts...and prevented fire breakouts and machinery damage! Here's another well-satisfied customer who says "*ERIEZ* separators are the best!"

.....Any place but at the Appleton Company, Anderson, S.C. The company uses an *ERIEZ* Magnetic Hump Separator installed between the bale breaker and vertical opener to catch clips, nails, bolts and other tramp metal. Appleton reports that it has had no opening room fires since the Hump was installed!

HOW TO PROTECT YOUR TEXTILE PRODUCTS WITH MAGNETS... This is the subject of a new 6-page, 2-color bulletin offered by *ERIEZ* Manufacturing Company. It is complete with descriptions and illustrations of all *ERIEZ* magnetic equipment. Also shown are exact installation locations for *ERIEZ* magnets on all types of textile machinery. Get your copy today. *IT'S FREE!* Use coupon below.

ERIEZ Manufacturing Company, 501A East 12th St., Erie, Pa.

My Contamination or Separation Problem is: _____

_____

Please Send Me the *FREE* Textile Bulletin

Name _____ Title _____

Company Name _____

Street _____

City _____ Zone _____ State _____ 52-GG

The time is *NOW*... *BETTER* Your Looms with Stehedco and Southern the *BETTER* Loom Harness Equipment

Yes . . . the time is NOW! And, as American Industry swings into full capacity production to meet the demands created by the impending crisis . . . massed humanity throughout a civilized world waits with abated breath and a hope that the results of our efforts will not be "too little and too late."

The *Textile Industry* shoulders a grave responsibility in this emergency. Mills must reach with all possible speed a maximum of production . . . the flow must be constant. Men and machines must now accomplish the impossible . . . day after day.

To accomplish this tremendous weaving task, we place at your service the complete engineering experience and facilities of our five large plants—spread throughout the nation where STEHEDCO and SOUTHERN—mill trained field representatives await your call.

These engineers will recommend the proper harness to REVITALIZE OLD LOOMS. They'll explain why new, modern high speed looms require top quality STEHEDCO and SOUTHERN Loom Harness Equipment to assure . . . fast . . . uninterrupted . . . FIRST RUNS. We've been doing this job through every crisis . . . since 1898. That is why today 9 out of every 10 mills depend on STEHEDCO and SOUTHERN LOOM HARNESS EQUIPMENT TO . . . WEAVE THE WORLD'S NEEDS.

STEEL HEDDLE MFG. CO.
2100 W. ALLEGHENY AVENUE PHILADELPHIA 32, PA.
Other Offices and Plants
Greenville, S. C. • Atlanta, Ga. • Greensboro, N. C. • Providence, R. I.
SOUTHERN SHUTTLES Paris Plant... Greenville, S. C.
A Division of STEEL HEDDLE MFG. CO.
STEEL HEDDLE COMPANY OF CANADA LIMITED
310 St. Hubert Street Granby, Québec, Canada

Exploring the Community

(*Continued from page 133*)

of 1858 which tripled production. They are compared with the new Crompton & Knowles six-color automatic gingham loom in use today. We see the first Jacquard machines to be used in America in 1820, less than 20 years after its invention by the French weaver. Other more intricate machines, the Grocblin Automat, of 1883, the first embroidery jacquard and the first Universal winder invented by the same man; Wardwell's automatic braider for electric wire covering, and various cloth-cutting, trimming, and other devices show the march of progress and productivity.

Space is devoted to fibers: cotton, silk, linen, ramie, and all the new man-made fibers. Beautiful and old commemorative designs are shown by the Cranston Print Works. Tartans and Toile de Jouys more than 150 years old accurately copied or adapted herald modern designs. Crazy quilts made nearly 100 years ago are shown as the key to textile patterns of Victorian days. And, nearby are the modern unwoven fabrics produced by Chicopee and Kendall Mills.

One may see cross sections of actual modern machines from the American Thread Co., and exquisite miniature models of cotton fields, cotton mills and finishing plants with their operations and processes. These modern layouts, absolutely perfect in scale and detail, are given by Pepperell Mfg. Co. and Dan River Mills. These and many other important textile mills will live in history through these displays.

In the Textile Museum of D. C., we feel the devotion and guidance of its founder and president who has collected this fabulous group of historic textiles. In the Smithsonian textile wing we are inspired with the evidence of patience, care, vision, of those pioneers who labored to produce labor-saving machines, to make a better world through more efficient production. And we are awed by the collection of beautiful and rare fabrics depicting colors and history of bygone ages, which remain to be the inspiration of modern day.

A vacation trip that can incorporate these tours may be the key to a now closed gate, opening new vistas, and better living in textile communities of tomorrow.

Get that SCRAP Back to WORK!

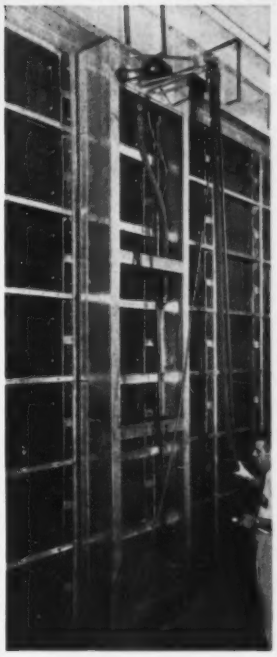
*Plant at Greenville, S. C.; N. Y. Sales Agents: Deering Milliken Co.

SMOKE
SPUN INTO YARN?

Yes, it used to be at Judson Mills. Cost them money, too, for it made the yarn streaky and smudgy, and much of it had to be sold as dark shades rather than as premium-commanding light or pastel shades. To complicate things, light shades produced in winter for the spring and summer markets were getting the full effect of all the smoke and soot thrown into the air by nearby factories and residences.

But Judson began engineering these dirt losses right out of their mill in 1940 with PRECIPITRON,® the electronic air cleaner. Their first installation was so successful that they have since added over 1,000,000 cfm capacity. Now the bulk of their production is in the light shades

Let air cleaning, air conditioning or air handling *put air to work* for you. Call your Westinghouse-Sturtevant office, or write Westinghouse Electric Corporation, Sturtevant Division, Hyde Park, Boston 36, Mass.



Judson Mill's PRECIPITRON units with semi-automatic washer not only give them top air cleaning efficiency, they also simplify the dirt disposal problem. Washer boxes automatically flush dirt off collector plates, leave unit ready for next cycle.

TUNE IN ON HISTORY! *Only Westinghouse brings you complete coverage of four-month political campaign over CBS television and radio.*

YOU CAN BE SURE...IF IT'S

Westinghouse

J-80237B

when you want tools fast

....Phone your nearby *Snap-on* factory branch

● You'll talk to a *tool man* when you get your Snap-on branch on the wire. He'll understand your wants clearly, and help you select the most efficient tools for your needs. You'll get professional tools of the finest character — properly designed, strong, versatile, *safe,* Snap-on Tools—that will serve you long and well. For 30 years, plants—large and small—have used and endorsed this "time-saving way to buy time-saving tools." May we send you copies of the latest Snap-on Industrial and General Catalogs? Write—

SNAP-ON TOOLS CORPORATION
8100-G 28th Ave., Kenosha, Wis.

FACTORY BRANCH WAREHOUSES AT 42 INDUSTRIAL CENTERS

Albany, N. Y., ALbany 4-2971
Atlanta, Ga., LAmar 4031
Baltimore, Md., HOpkins 4666
Boston, Mass., STadium 2-2230
Brooklyn, N. Y., SLocum 6-8707
Buffalo, N. Y., GArfield 6374
Charlotte, N. C., 3-8831
Chicago, Ill., TAylor 9-2651
Cincinnati, Ohio, WOodburn 3188
Cleveland, Ohio, PRospect 4400
Dallas, Texas, Riverside 1611
Denver, Colo., ALpine 5406-07
Detroit, Mich., TRinity 5-6455
Fargo, N. Dakota, 5790
Houston, Texas, FAirfax 9815
Indianapolis, Ind., LIncoln 4351
Jacksonville, Fla., 4-4460, 4-4469
Kansas City, Mo., WEstport 0364
Los Angeles, Calif., DUnkirk 83445
Milwaukee, Wis., WEst 3-3116-17
Minneapolis, Minn., GEneva 5367
Newark, N. J., ESex 5-3197-98
New Orleans, La., RAymond 8418
New York, N. Y., JErome 7-7523
Oklahoma City, Okla., 3-4975
Omaha, Nebr., JAckson 6159
Philadelphia, Pa., POplar 5-7400-01
Pittsburgh, Pa., MOntrose 7600
Richmond, Va., 5-8115
St. Louis, Mo., NEwstead 1150-51
San Francisco, Calif., UNderhill 3-3195
Seattle, Wash., CApitol 3646
Syracuse, N. Y., 5-2294
Toledo, Ohio, ADams 1026

IN CANADA
Edmonton, Alta., 23889
London, Ont., 4-7307
Moncton, N. B., 2-4159
Montreal, Que., DOllard 4620-29
Regina, Sask., 7170
Toronto, Ont., MAyfair 1196-97
Vancouver, B. C., TAtlow 1561
Winnipeg, Man., 927-707

***Foremost* IN HAND TOOL ENGINEERING, MANUFACTURE, DISTRIBUTION**

Phoenix Hosiery

(*Continued from page 94*)

feet and better uniformity of shade. The 200-needle hose are dyed best in rotary dye machines, in loose form.

Dynel Boarding Is Critical

Boarding of dynel hose was found to be a ticklish job until the ideal conditions were found. Of a 3-min. 16-sec. cycle in an automatic boarding machine, used for lightweight hose, 40% of the time is spent in the 240° F. air chamber. For the heavier hose, 40% of a 4-min. 58-sec. cycle is used. As the forms move out of the air chamber they are cooled by a forced-air fan in a cooling box before the stripper fingers grab the sock.

Cooling before stripping is essential to prevent distortion of the partly plasticized fibers.

The stripper fingers are covered with leather that is kept soaked with Amide PES to eliminate static troubles at this point.

From the consumer's viewpoint, dynel fabrics should be treated with the care given to any fine fabrics, and air-dried below 200° F. for satisfactory performance.

Type 81 Orlon is being made into 84-needle hose in a heavy-weight elongated-panel cable, knit links-on-links of two ends of 2/24 worsted-count yarn. Preboarding is not necessary. Light shades only are obtainable at present.

The socks are scoured at the boil for 20 min. with 3% oleate flakes, 3% tri-sodium phosphate, and 1% synthetic detergent, then rinsed once at 160° F.

Dyebath is started at 100° F. with 5% Dacronyx. Add dispersed dyes (selected acetate colors) and raise to the

SAVE 4-WAYS

IN MANUFACTURING NON-WOVEN FABRICS with RANDO-FEEDER and RANDO-WEBBER

SAVE

Capital Expenditure

Only one pair of machines—Rando-Feeder and Rando-Webber—is needed to make a non-oriented web. No carding, garnetting or lapping equipment is required.

SAVE

Mill Space

Very little mill floor space (less than 10′ x 5′) is required. At present only massive machines, not having the versatility of Rando-Feeder and Rando-Webber, are being used.

SAVE

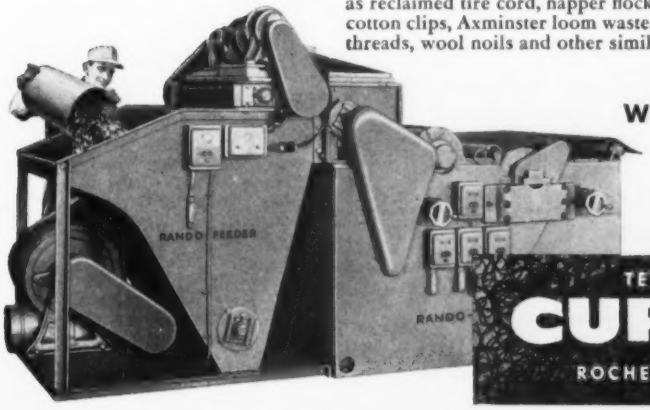
Production Time

The versatile Rando-Feeder and Rando-Webber produce webs of desired thickness . . . from paper thin to 2-inch thickness. Capacities of the machines depend upon the type and condition of materials being processed. The range of the machines is from 35 to over 100 pounds per hour. In addition resins can be introduced while web is being formed by a supplementary feeding device.

SAVE

Waste Fiber (and turn it into profitable products)

The web or mat produced is suitable for further processing into felts, wadding, heavy mats, and non-woven fabrics. To date waste fibers such as reclaimed tire cord, napper flocks, cotton linters, jute waste, garnetted cotton clips, Axminster loom waste, cotton, rayon, nylon mill waste and threads, wool noils and other similar materials have been processed.



WRITE today for more detailed information on how you can have a web made from your own fiber. Curlator Corp., 589 Blossom Road, Rochester 10, N. Y.

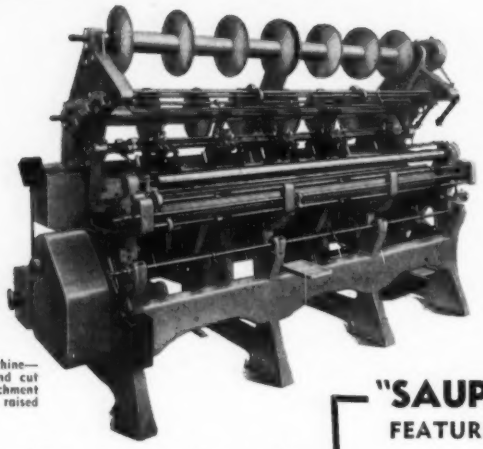
TEXTILE DIVISION
CURLATOR
CORPORATION
ROCHESTER 10, NEW YORK

HERE AGAIN

FAMOUS ORIGINAL

"SAUPE"

High Speed Tricot Machine



3 bar machine—with solid and cut press attachment for fancy raised effects

This outstanding modern machine is the result of a lifetime of experience in the manufacture of "SAUPE" machines and is based on the practical knowledge of warp knitting. It is built to provide uninterrupted quality production at all times. The general construction of this distinctive machine endows it with the ability to stand up under continuous high speed schedules with an ease of operation that reflects, to the highest degree, true precision of all working parts. All parts are easily accessible and every possible safety precaution has been provided to give the American knitter a truly efficient machine.

Ever increasing demand for Tricot makes it positively in your interests to equip your mill with our "Saupe" high speed machine, to insure continuous uninterrupted quality production with least machine maintenance. We respectfully solicit your inquiries for any and all details. A demonstration may be arranged under actual mill conditions.

"SAUPE" FEATURES

QUICK STOP MECHANISM. Stops machine by new patented device.

INCHING DEVICE turns machine by electric power at slow speed enabling operator to see knitting elements.

TAKE-UP ROLLER assures uniform number of stitches per inch, regardless of increasing diameter of take-up roller.

AUTOMATIC YARN FEEDING MECHANISM insures unvarying uniformity of cloth without variations. No yarn pull-off, no strain on knitting elements.

Sectional beams up to 21" flange diameter.

Solid frames. Broad cams. Special alloy, lightweight cam levers and needle-bars. Guide-bar lifting mechanism. Machine takes chain-links 28 gauge on all gauges from 18 to 34 gauge without adjustments. Furnished with or without cut-presser-bar, in widths 84, 111 and 168 inches.

SPEED—"cruising" speed up to about 450 courses a minute or better, depending on material used.

ERICK GROSS Corporation

Telephone DUmont 4-4537

64-72 WEST BROAD STREET

BERGENFIELD, NEW JERSEY

boil in 20 min. Boil for 45 min., rinse, and finish with a synthetic softener.

Type 41 Orlon, used in the same type sock as above, is scoured with a synthetic detergent at the boil for 20 min. and rinsed.

The dyebath is started at 120° F., with 10% copper sulfate and 5% hydroxyl-ammonium sulfate, and run for 10 min. 2% Alkanol WXN is added along with the dispersed dyes, and the bath raised to the boil in 30 min. Boil for 60 min.

Rinse twice at 120° F. Soap at 140° F. for 10 min. with 2% oleate flakes. Rinse twice at 110° F., finish with a softener.

Highly selected acid dyes that give very good fastness to washing, light, and crocking are used.

As yet, the hand of Orlon hose has not been "lively" enough. It is believed that the proper combination of spinning methods and finishing may improve this condition. Experiments are being conducted on this problem.

Blends Are Being Developed

In a 65% Vicara, 35% spun-nylon blend that replaces their old 50/50 blend, a links-cable-rib pattern is being made on a 132-needle machine. Two ends of 1/26 worsted-count yarn are used. It is not necessary to preboard.

For light shades in general it is possible to get a good union with selected acetate colors.

The goods are scoured at 160° F. with a synthetic detergent plus 3% ammonia for 20 min., then rinsed at 100° F. for 10 min.

To a dyebath at 100° F., 2% synthetic detergent is added. Run 5 min. and add dispersed dyes. Raise to 200° F. in 30 min., run 20 min., sample. If adds are needed, add at 200° F.

Rinse at 100° F. and finish with a synthetic softener.

Dark shades are best obtained with

For more information, write direct or use Reader Service post card.

Now an Important Part of the American Market

Thomas Hodges Corp.

OFFERS

yarns and staple fibres

PRODUCED BY

Farbenfabriken Bayer

(FORMERLY I. G. FARBEN)

BAYER Perlon

Nylon

(PERLON)
POLYAMIDE FIBRE

30 DAY DELIVERY

1½-20 denier
1½" to 6" staple cuts. Bright, dull, extra-dull. Natural and 28 stock dyed colors.
TOW: 2.75 to 6 denier—100,000 aggregate denier.
Filament Yarn 1800 denier and up.

uprama

Cuprama

RAYON STAPLE FIBRE

The most wool-like fibre from a cellulose base available anywhere in the world. Feels like wool! Looks like wool! Spins like wool!

3 WEEK DELIVERY

1½-20 denier
1½" to 6" staple cuts. Natural or dope dyed (solution dyed) in 28 colors. Any shade in 5 ton minimum lots.

CUPRESA

*Cupresa**

CONTINUOUS FILAMENT CUPRAMMONIUM RAYON YARN

25 - 150 denier.
Natural and dope dyed (solution dyed) in 28 colors. Any shade in 5 ton minimum lots.

*Reg. appl. for

Featuring
CONTROLLED UNIFORMITY...
for greater manufacturing efficiency and a better finished fabric.

THOMAS HODGES CORPORATION
11 W. 42nd St., New York. Tel. BR 9-1628-1629-1630
Warehouse, Box 86, Kearnysville, W. Va.

Sole sales representatives of Farbenfabriken Bayer (Formerly Famous I. G. Farben) Chemical Fibre Division

Controlled Pressure

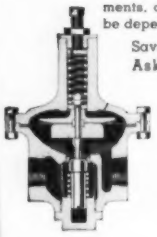
for efficient operation

Clark Pressure Reducing and Regulating Valves

are precision-made for positive pressure control on air, gas or steam lines.

Where different types of equipment, with varying pressure requirements, are operated from a common line, Clark Regulating Valves can be depended on to deliver automatically the "just right" pressure to each.

Save on fuel, maintenance and protect expensive equipment. Ask your Clark representative to specify the right Clark valves for your needs . . . or write us direct.

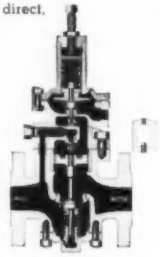


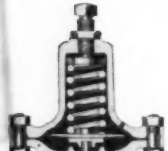
TYPE KRV

Pressure Reducing Valve. Diaphragm Operated-Single Seated Valve. Sizes ½" to 1½" for initial pressures up to 250 P.S.I. Reduced pressures to 85 P.S.I.

TYPE CRV

Pressure Reducing Valve. Integral pilot controlled, piston operated. For pressure control from "dead end" to full capacity. Sizes ½" to 6".





TYPE ORV

Pressure Reducing Valve. ⅜" and ½" Single Seated, Spring Loaded, Diaphragm Actuated. For initial pressures to 250 P.S.I. Reduced pressures to 200 P.S.I.

QUICK-CLEANING STRAINERS

Remove dirt, scale and grit from steam, fluid and gas lines. Sizes ½" to 3" I.P.S. For pressures to 250 P.S.I.

THE CLARK MANUFACTURING COMPANY

1830 East 38th St. • Cleveland 14, Ohio

Clark

THE HOME OF DUO STEP LEVERAGE

The complete line of dependable fluid controls

selected acid or milling colors, exhausted with ammonium sulfate or acetic acid. The scouring, dyeing, and finishing are the same as above.

Appearance Must Be Right

Any hose that do not look "up to snuff," after boarding by the conventional method, are reboarded on a flat-bed press seen formerly only in Canada. The hose are boarded on wooden forms and are placed on the lower, heated, cloth-covered bed. The upper bed is lowered to barely touch, not press, the socks. This machine can be used to custom-finish any type of sock.

It has been found profitable—in good will and in dollars—to use only the best techniques and the best materials. The hosiery business is competitive, and quality goods will always find a market.

Work is proceeding on combinations and blends—to discover the best qualities of each fiber and to combine these with others for effect, wearability, and esthetic qualities.

Dynel with wool in a 50/50 blend, and Orlon #41 with wool in a 60/40 blend are currently being explored. The trend is toward blending—with an eye to end use and practicability.

Fabric Coating

(*Continued from* page 129)

establish a greater factor of safety, and design the equipment so that the maximum concentration should not be over one-third of the lower limit.

It should be pointed out that Charles' law and Boyle's law apply to only ideal gases and may not be exactly followed by all materials in the gaseous state. Experience, however, has indicated that the deviation in the case of most solvents is not great enough to have any material effect on the factor of safety. If there is any question as to the reliability of the calculations, they can always be verified by the use of a Hempel pipette, determining the lower limits of flammability of the solvent mixture at the operating temperature of the oven.

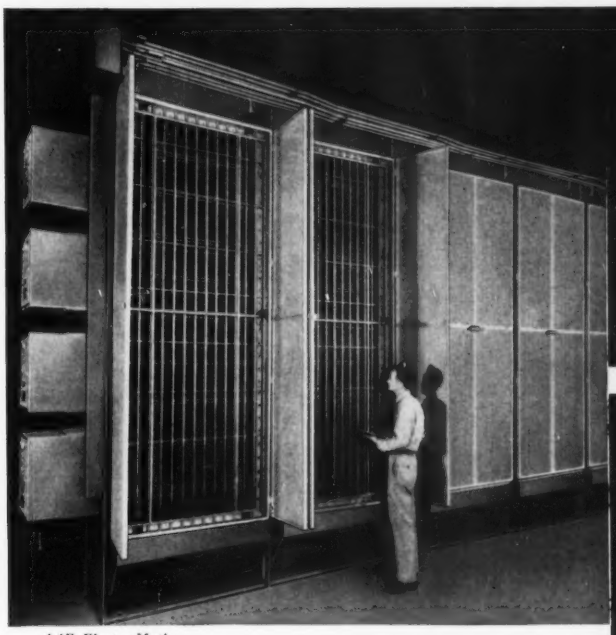
Design to Prevent Danger

In addition to engineering the drying ovens for solvent work so that there should be no possibility of ever obtaining an explosive mixture under normal operating conditions, they should be designed so that these conditions may never be caused by abnormal circumstances, such as the failure of an exhaust fan, the blocking of an air duct, or the thoughtless change of a solvent mixture or concentration.

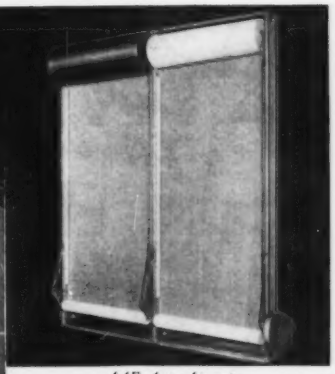
It is of primary importance that

For more information, write direct or use Reader Service post card.

clean air costs less than dust!



AAF Electro-Matic



AAF Auto-Airmat

AAF Airmat Lint Arrester

clean air for textile processes...REDUCES OPERATING COSTS!

Specially Designed AAF Filters Improve Quality Control And Cut Maintenance Man-Hours

The best accountant in the business can't tell you the cost of lint and dust in textile manufacturing. But more than 100 mills and textile processors have found that *clean air* supplied by AAF filters is a profitable investment. These filters . . . specially designed for the textile industry . . . reduce rejects, fuel bills and maintenance costs . . . improve product quality control and employee efficiency. The AAF filters shown here have important case histories and are only three of a complete line of air cleaning equipment.

If you want advice on eliminating the cost of lint and dust from your operating statement, call your nearby AAF representative . . . or write to us for complete engineering details.

ELECTRO-MATIC — self-cleaning, electronic precipitator. Highest cleaning efficiency—from smoke to large air-borne material. Used extensively to supply *super-clean* air for thread drying, yarn dyeing and critical processes. Eliminates *shut-downs* and reduces maintenance "man-hours" to a minimum. Bulletin No. 250 F.

AUTO-AIRMAT — the only practical, automatic, self-cleaning lint filter. Widely used for efficiently collecting lint in return air of weaving and spinning rooms. Licks disposal problem, since lint load is contained within rerolled Airmat media. Bulletin No. 234.

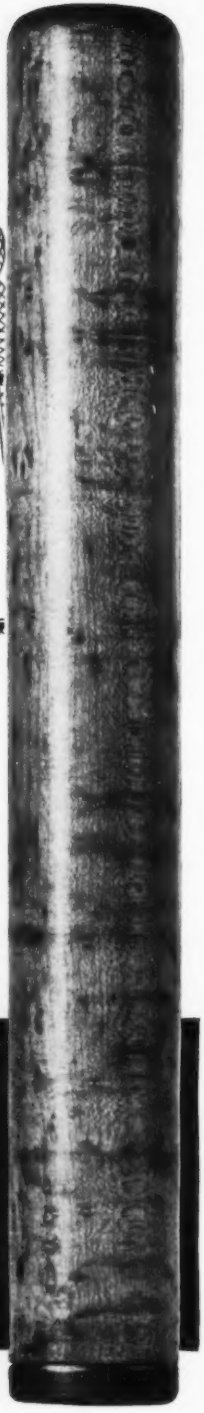
AIRMAT LINT ARRESTER — cleans air exhausted from picking and opening machines . . . to allow recirculation. Special design combines compactness and efficiency reducing space normally required for dust basements. Also simplifies installation and maintenance. Bulletin No. 281 B.

AAF **American Air Filter**
COMPANY, INC.
304 Central Avenue, Louisville 8, Ky.

American Air Filter of Canada, Ltd., Montreal, P. Q. • Pacific Division Office, San Francisco, California

We are Licensed to Make

NEW ERA Type WARP BOBBINS For Saco-Lowell SG-1 Spinning Frames



This new bobbin, for top suspension drive, meets all requirements of the new Saco-Lowell SG-1 Spinning Frames — "The only revolutionary development in spinning for more than 100 years."

May We Quote On Your Requirements?

LOWELL SHUTTLE COMPANY

Established 1896 • Incorporated 1914

15 TANNER ST. LOWELL, MASS., U. S. A.

SALES REPRESENTATIVES

Hendrik Van Brederode, 311 Godwin Ave., Midland Park, N. J.; W. P. Russell, P. O. Box 778, Atlanta, Ga.; West Philadelphia Supply Co., Emerald and Somerset Streets, Philadelphia, Pa.; E. B. Smith, P. O. Box 3085, Greenville, S. C.

the exhaust fan of the oven be so tied into the power circuit of the coating equipment that the coater cannot be operated unless the exhaust fan is first turned on. This system prevents any possibility of evaporating solvent into the oven without adequate ventilation.

Continuously operated inflammable-vapor indicators should be installed to sample and analyze the air automatically in various parts of the oven at regular intervals. Points of sampling are established as those where greatest danger of vapor build-up may exist. These may be connected to sound an alarm as established limits of dangerous concentrations are approached, and to stop the machine if the concentration passes that of safe operation. In addition, some installations have constant reading Venturi meters in the exhaust-air ducts. These are usually installed so that an alarm will be sounded in the event the flow of air is reduced to the point where a dangerous concentration of solvent might accumulate.

Several Oven Types Used

The straight single-pass drying oven is probably the oldest method of oven drying of coated fabric. Even today it is one of the most common systems in use, and it may be adapted to the fusion of vinyl coatings. In the older installations, the heat source is usually a series of pipe coils placed 3 to 6 in. below the cloth. A single vent stack, equipped with an exhaust fan, is installed to remove the solvent vapors. More efficient heating and more effective drying are obtained by the use of circulated hot air. Often air from the back of the oven, which is low in vapor concentration, is mixed with a portion of fresh air and recirculated to reduce the amount of heat required. Nozzles are used to direct the heated air to the fabric and baffles may be installed to direct and control the air flow.

If coatings are of latex or organisol, it is necessary to employ a gradient heating of the oven from the front to the rear. Air at fusion temperatures would evaporate the water or organic dispersion medium so rapidly that the coating would be pitted and blistered. Many authorities contend that gradient heating is desirable for the fusion of vinyls. It appears reasonable that the gradual raising of the temperature to that of fusion would accomplish a more uniform result with fewer possibilities of defects. However, many installations, particularly those that are electrically heated, subject plastisol coating to fusion temperatures immediately upon

NO. 37 OF A SERIES

BERKSHIRE . . . *World's Largest Full-Fashioned Hosiery Mill . . . . Concludes a Multi-Million Dollar Modernization Program* . . . in Pennsylvania

$10,000,000 has been spent by the Berkshire Knitting Mills in the modernization of the company's operations, and to make them so efficient that they can compete with any hosiery mill in any part of the country. Starting in the post-war year of 1946, the Berkshire program is a continuous one, replacing old equipment with new, in every division of hosiery manufacture.

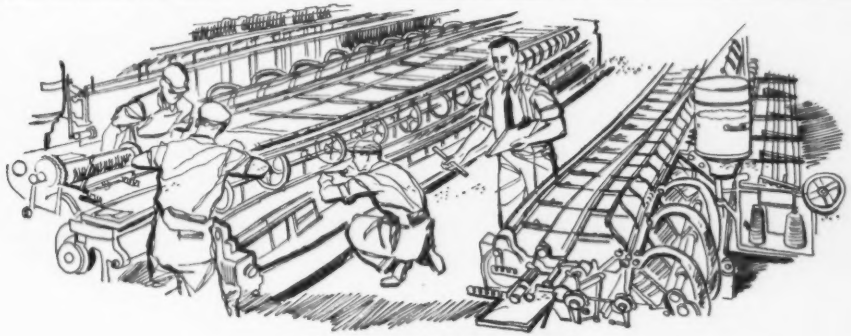
FERDINAND K. THUN, President of Berkshire, said:
"Berkshire Knitting Mills started here in Reading, Berks County in 1906. Since then we have produced over 75,000,000 dozen pairs of full-fashioned stockings. We like Pennsylvania. We like Reading. We like the skilled people who work with us here. We like the proximity to the big eastern markets. And we plan to stay here, as evidenced by the fact that we embarked on a program of such magnitude in the hosiery industry."

WHAT PENNSYLVANIA HAS TO OFFER THE TEXTILE INDUSTRY

1. Locations in low-tax rural areas suitable for development. (Pennsylvania has more small towns than any state in America.)
2. Nearness to the great New York textile market.
3. Good water supplies. (The State has carried on studies of water conditions in many parts of Pennsylvania and can offer complete reports.)
4. Ample supplies of coal, and, in many areas, natural gas and oil.
5. Access to trunk line railway lines and the greatest state highway system in America.
6. Large supplies of skilled workers, including many farm families who are interested in supplementing their income with textile work.

The Pennsylvania Department of Commerce will be glad to tell you about locations suitable for some of your operations.

One of the new 30-section, 60 gauge full-fashioned knitting machines, the most efficient in the world, being installed at the Berkshire Knitting Mills, Reading, as part of its $10,000,000.00 modernization program. This machine is made up of over 180,000 separate pieces and produces 30 stockings at one time.



DEPARTMENT OF COMMERCE

Commonwealth of Pennsylvania

HARRISBURG, PENNSYLVANIA

JOHN S. FINE
Governor

ANDREW J. SORDONI
Secretary of Commerce

Tenderizes tough, textile trouble...

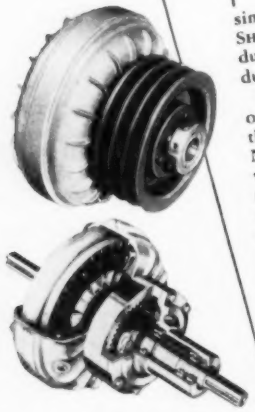
Two Twin Disc hydraulic coupling drives—HYDRO-SHEAVE® (above) for smoothing starts and absorbing running shocks in ¾ to 50 hp. motor applications and HYDRO-WYND® for automatically maintaining tension in winding—are solving many textile industry headaches.

There's story after story about how the simple, quickly installed Twin Disc HYDRO-SHEAVE® package drive is eliminating production headaches throughout the textile industry. For example:

Frequent production interruptions were occurring on reversing aprons in the plant of the Cone Mills Corporation, Greensboro, N. C., due to slippage and delayed action with the dual pulley drive system. Motors and drives were being damaged, creating serious maintenance problems; further delays were caused by frequent plugging between aprons and condensers.

When these difficulties virtually disappeared on aprons equipped with HYDRO-SHEAVE® Drives, Cone officials authorized an extensive conversion in several mills.

For a quick solution to such problems, contact your Twin Disc Hydraulic Products Dealer or nearest factory branch.



Center: HYDRO-SHEAVE® Drive.
Above: HYDRO-WYND® Drive.

TWIN DISC
CLUTCHES AND HYDRAULIC DRIVES

TWIN DISC CLUTCH COMPANY, Racine, Wisconsin • HYDRAULIC DIVISION, Rockford, Illinois

BRANCHES: CLEVELAND • DALLAS • DETROIT • LOS ANGELES • NEWARK • NEW ORLEANS • SEATTLE • TULSA

entry into the heating chamber with satisfactory results.

In solvent, latex, and organisol coating, temperatures of from 150° F. to 225° F. are usually sufficient to remove the dispersant, dependent upon the length of the oven, the speed of coating, and the evaporation rate of the solvent or dispersant. For vinyl-resin fusion, air temperatures of 400° to 450° F. are required, depending on the type of resin and the type and amount of plasticizer used in the compound, as well as the structural characteristics of the oven.

Heating Rate Critical

If gradient heating is required, three zones of temperature are usually established. The first is a low-temperature zone, suitable for evaporation of solvent or dispersant without creating physical defects in the coating. The temperature of the second is usually 30 to 40% higher than the first zone, to permit the evaporation of residual dispersant with a minimum possibility of the formation of pin-holes and similar defects. The third is the fusion zone. It is pointed out that at fusion temperatures the vinyl resin tends to flow slightly and some defects, caused by too rapid evaporation, may be healed as a result, particularly in heavy coatings.

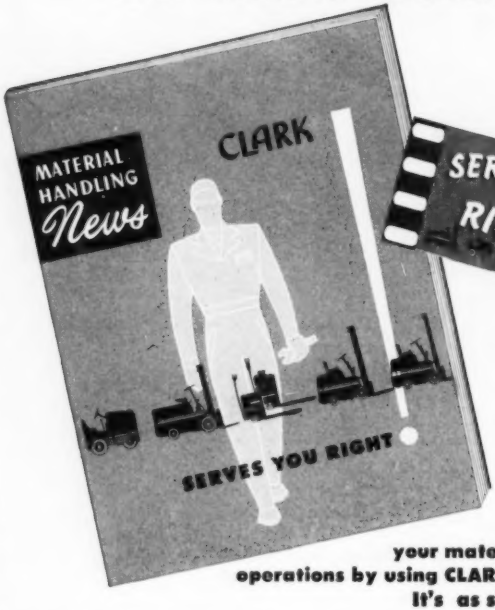
In recirculating-hot-air systems, direct heating of the air by gas or oil-fired burners is one common method of obtaining the required temperatures. If coatings are of the organisol type, it is necessary to construct the system so that the burners are located outside the coating area and separated from it by a fire-wall to eliminate fire and explosion hazards when direct-fire heating is employed.

Air-fin, or similar heat-transfer equipment, is also used to provide hot air for fusing vinyls. Here high-pressure steam, Dowtherm, oil, or the Supertherm system of superheated water may be used as the heat transfer medium.

In some instances, single-pass drying ovens are operated at temperatures in the vicinity of 250° F. This temperature will set the vinyl enough so that it can be rolled up without damage. It is then fused on a separate unit. In organisol work, the adaptation is often made by using the available unit for the evaporation of the dispersant and installing a radiant- or contact-fusion unit in tandem with it. For plastisol work, it can be converted by providing a means of heating the circulating air to about 400° F. However, in older installations particularly, where the

FAMOUS
THE WORLD
OVER
BUILDERS OF
Cotton and wool dyeing machines
for beams · packages
raw stock · skeins · rayon cakes
dye spindles · perforated tubes
centrifugal pumps · extractors
and dryers
Stienen Obermaier
Trade Mark
(Reg. Trade Mark)
EQUIPMENT
Stienen
LEAD WITH THE Leader
Obermaier
Standard Fabricators
INCORPORATED
355 Walton Avenue
•
New York 51, N. Y.
EXCLUSIVE SALES AGENTS OF OUR ASSOCIATES
Obermaier & Cie.
Neustadt Weinstrasse, Palatinate, Germany

HOW TO GET THE MOST FOR YOUR MONEY!



JUST MECHANIZE your materials handling operations by using CLARK EQUIPMENT. It's as simple as that.

● That's what they all say? Perhaps. But CLARK backs up *its* claim with facts and unmatched performance.

On the questions of . . .	**√ Number of Trucks in Use**
√ Quality, Longevity	**√ Efficiency and Performance**
√ Savings Achieved	**√ Economy of Operation and Maintenance**
√ Customer Satisfaction	**√ Factory and On-The-Ground Service**

. . . there is at hand—and available to you—overwhelming evidence that CLARK Serves You Right!

The whys and wherefores are available to you in two new media—the "SERVES YOU RIGHT" edition of our Material Handling News, and our new movie on the use of fork-lift trucks and industrial towing tractors in Plant Maintenance Work.

Each of these items is free to you—the 15-minute sound movie, black-and-white, on a loan basis. They'll tell you and show you how CLARK enables you to get the *MOST* for your money. Just fill out the coupon, attach to your business letterhead and place in your "outgoing" mail basket.

CLARK ELECTRIC AND GAS POWERED FORK TRUCKS
AND POWERED HAND TRUCKS • INDUSTRIAL TOWING TRACTORS

INDUSTRIAL TRUCK DIVISION • CLARK EQUIPMENT COMPANY • BATTLE CREEK 27, MICHIGAN
Please send: ☐ Material Handling News ☐ Movie "Serves You Right"
☐ Have Representative Call.

Name_____
Firm Name_____
Address_____
City_____ Zone_____ State_____

DISTRIBUTED THRU INDUSTRIAL TRUCK PARTS AND SERVICE STATIONS IN STRATEGIC LOCATIONS

ovens were not designed to operate at such high temperatures, such conversion is apt to cost about as much as a new installation, if top efficiency is to be obtained.

One of the primary factors in determining the speed of coating that can be achieved is the length of the oven. A two-pass drying oven will permit higher coating speeds than the single-pass oven in fusing plastisols. This is obvious since the cloth would have twice the time of heat exposure in the same length of oven. It should be noted that the face of the cloth does not make contact with the pull drum at the back of the oven, but must be kept under considerable tension to prevent sag on the return pass. In multiple-pass ovens with more than two passes, face contact must be made with some of the reversing rolls and possibly with intermediate supporting rolls. The length of the oven is the principal factor in determining whether intermediate supporting rolls are necessary or not. Some of the difficulties that result from such contact may be overcome by using chrome-plated rolls, highly polished, but the condition is not ideal.

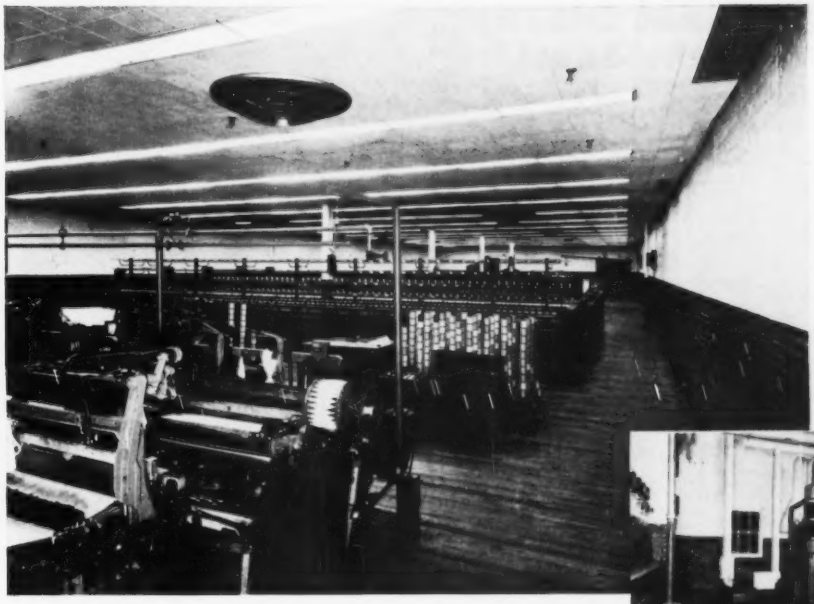
The fixed-stick festoon oven has proved well adapted for the fusion of plastisols by hot air. As with any coating, the sticks must be placed far enough apart, and the air flow so directed, that the possibilities of face-to-face contact of the softened coating in the folds is minimized.

The principles of the tower dryer are the same as those of the double-pass oven, except that it is vertical instead of horizontal. It requires less floor space than the horizontal type, but loss of width of the cloth, from the tension created by its own weight, is apt to be greater. Probabilities of damage from turnover wrinkles and similar mishaps are greater. These usually occur at the reversing roll at the top of the tower and are not apt to be discovered until they come out at the bottom. Inspection windows in a horizontal oven permit the operator or back-tender to discover these troubles sooner and they can be remedied much easier and quicker.

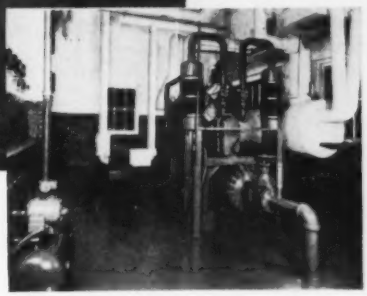
Heat Sources Are Many

With the use of a hot-air system for fusion, it is difficult to obtain any immediate reduction of oven temperatures and in consequence, probabilities of damage to considerable quantities of cloth are greater in the event of a shutdown than with other methods.

In conduction heating, releasing the tension on the cloth relieves contiguity so that the fabric will not



Pilot Plant of Pepperell Manufacturing Company, Lindale, Ga.



PEPPERELL'S PILOT PLANT

. . . synthetic fiber research at its best!

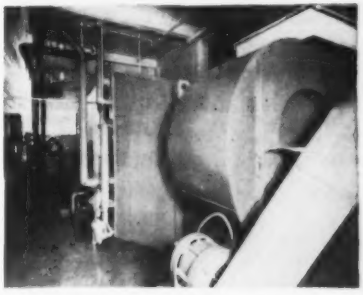
Amco Central Station Air Conditioning meets Pepperell's exacting specifications for control of temperature, humidity, air cleanliness.

At the heart of the pilot plant is this air conditioning equipment room — containing compressors, water chiller and cool water circulating pump.

When Pepperell Manufacturing Company built their "miniature mill" at Lindale, Georgia, they set out to produce a nearly perfect pilot plant for test operations with the newest synthetic textile fibers. To maintain complete atmospheric control the year-round, they had Amco install central station air conditioning with refrigeration and electrostatic air filtering. Accurate, adjustable control of temperature and humidity assures the exact conditions required for any given pilot operation. All ducts are hidden for neat appearance and easy housekeeping.

Of course, it isn't always practical, or desirable, to "streamline" a plant like this. Your plant — like many mills — may already have a modern, efficient humidification system. You can easily add COOLING with an Amco ductless system — without discarding anything, and by making only modest alterations.

Amco systems give you a choice of humidification, evaporative cooling (central station, dry duct, or ductless types) or refrigeration, alone or in combination. You can rely on Amco to give you advice on the system best suited to your needs. Call an Amco engineer.



Apparatus room contains air blower and washer

Benefits of Controlled Humidification and Cooling

Regain maintained • yarn counts kept more even • static electricity eliminated • closer machine adjustments and higher speed maintained • less broken fibers, dust and fly • cleaner yarns • stronger, more even fabrics • greater worker comfort and efficiency

AMCO

AIR CONDITIONING SYSTEMS since 1888

Humidification • Evaporative Cooling (Ductless or Central Station) • Refrigeration

AMERICAN MOISTENING COMPANY • Affiliated with Grinnell Company, Inc., Providence, R. I. Atlanta • Boston • Camden • Charlotte

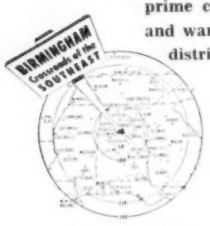
BIRMINGHAM DISTRICT
Now the South's "Trucking Capital"

SCHEDULED DELIVERY TIME IN DAYS TO PRINCIPAL CITIES REACHED BY FAST MOTOR FREIGHT OUT OF BIRMINGHAM TL and LTL
3 DAYS
2 DAYS
1 DAY
BIRMINGHAM

"No. 1 Gateway" to Alabama and the South is the designation given Birmingham by trucking associations. Through this natural Gateway, 68 truck lines—42 of which have headquarters here—give direct, fast scheduled service to the Nation's markets. They provide regular daily or overnight truckload and less-than-truckload service and also make direct deliveries to principal cities in the South, East and Midwest. Their equipment comprises every type required for general commodity and specialized operations.

Out of Birmingham to major market centers, Birmingham's truck lines transport a large tonnage of this district's finished products—textiles, iron and steel articles, chemicals, food products, marble, and many more. Into large storage warehouses in this geographic center of the South, they bring from many sections of the country a wide variety of products for distribution throughout Southern markets.

Birmingham's extensive motor carrier facilities have been a prime consideration with many of the industries and warehouses that have located recently in this district.



For specific rate information or other data on trucking service into or out of Birmingham, write this Committee.

BIRMINGHAM COMMITTEE OF 100

1914 Sixth Ave., N., Birmingham, Ala.

Executive Committee

Gordon Persons
Governor
State of Alabama

Bradford C. Colcord
President
Woodward Iron Co.

John S. Coleman
President
Birmingham Trust
National Bank

Donald Comer
Chairman of the
Executive Committee
Avondale Mills

William P. Engel
President
Engel Companies

W. W. French, Jr.
President
Moore-Handley
Hardware Co.

Clarence B. Hanson, Jr.
Publisher
The Birmingham News

W. H. Hoover
President
Employers Insurance
Co. of Alabama

Claude S. Lawson
President
United States
Pipe & Foundry Co.

Thomas W. Martin
Chairman of the Board
Alabama Power Co.

J. C. Persons
President
First National Bank

O. W. Schanbacher
President
Loveman, Joseph &
Loeb

Mervyn H. Sterne
Sterne, Agee & Leach

A. V. Wiebel
President
Tennessee Coal & Iron Div.
United States Steel Co.

scorch too readily, in addition, the amount of cloth in contact with the drum or belt is usually considerably less than that exposed in the hot-air oven.

In radiant heating, the heat source is usually electricity that can be shut off immediately. Installations of this type may be so designed that the heating elements may be moved away from the surface of the cloth when the unit is shut down. These features make possible a method of fusion with which the probabilities of cloth damage during shutdowns is almost negligible, if the equipment is properly designed.

Infrared lights, Calrod units with reflectors, and Nichrome-wire heating units of various types are used for direct radiation fusion. The source temperature of the electrically heated units may vary between 1,000 and 2,000° F. depending on the type and design. Ceramic radiation units, heated by gas burners, have also been considered.

The heating may be accomplished with heating units above the cloth only, but it is generally conceded that better uniformity and greater speed of fusion will result if a portion of the heat is applied from the under side as well. Too much heat applied on the back of the cloth can cause too much penetration of the coating.

The retraction of the panels of heating units may be accomplished by electric motors, hydraulic lifts, or compressed-air-operated air jacks. The latter are very effective and in most instances cheaper to install, particularly since compressed air is apt to be already available.

When infrared lamps are used as the heat source, retractable panels are not essential, since they throw off less heat after the current is shut off than most other types of electrical heaters. Sill Industries, Inc. is marketing a coating unit wherein no oven, in the conventional sense, is employed. In this equipment, infrared Fiberglas radiant-heating panels are so mounted that the cloth passes between them. These, in a sense, might be considered as forming the top and bottom of a single-pass oven. They are retractable so that they may be moved away from the fabric whenever the coating operation is stopped. This is to eliminate the possibility of damage to the fabric from any continued radiation, when the cloth is not in motion. Suction ducts are mounted at the sides, paralleling the selvage of the cloth, to remove vapors.

Most installations, as is typical with any type of fusion equipment, have low-pressure embossing units in tandem, so that embossing or texturing

Here's NEWS about AMERICAN WEDGBELT DRIVES

Send For This FREE Book—Today!

Just off the press is a new, complete, 20-page book on American Wedgbelt Drives. Send for it today and find out how American Wedg-Tite Sheaves and American Wedgbelts can help you to improve high-speed drives . . . improve your production . . . and do it all very economically. In this new book you'll find information on the complete line of American Wedg-Tite Sheaves and American Wedgbelts. In addition, you'll find the profit story of American's Adjustable-Speed Drives with the exclusive, patented *Double-Taper* Adjustable-Speed Sheaves.

Find Out About The Sheaves With Wedg-Tite Bushings.

American Wedg-Tite Sheaves start with sound, high-quality castings . . . are better machined . . . closely inspected . . . accurately matched groove-to-groove and sheaves to belts. *Wedg-Tite Bushings*, split for full grip on under- or over-sized shafts, speed installation . . . speed removal . . . speed and simplify alignment. Find out *how* in this new Book!

American Service Is As Near As Your 'phone.

Selected distributors in key cities across the country have complete stocks of American Wedgbelt Drives. These are backed by strategically located warehouse stocks . . . and by the production capacity of a versatile factory with modern organization and equipment. Be sure to ask for the name of your nearest American Distributor when you mail the coupon . . . and be sure to mail it—Today.

NEWS FLASH!

Now, for the first time, this well-known Wedg-Tite construction is available in single-groove combination "A" and "B" Groove Sheaves.

At the Profit end of the machine

Power Transmission by

AMERICAN

PULLEY COMPANY

Other Products:
Steel Split Pulleys • Speed Reduction Drives and Overload Releases • Backstops
Adjustable-Speed Sheaves • Econ-O-Matic Motor Bases • Hi-Torque Motor Pulleys
Solid and Split Shaft Collars • Steel Conveyor Pulleys

The American Pulley Company
4226 Wissahickon Ave.
Philadelphia 29, Pa.

Gentlemen:
Please send me your new, 20-page book on Wedgbelt Drives ☐
The name of the American Distributor nearest to me ☐

Name_____

Firm Name_____

Address_____

City_____ Zone_____ State_____

INVESTIGATE
Tower
TEXTILE EQUIPMENT

MECHANICAL PAD

Can the installation of a Tower Mechanical Pad help solve your production problems? This unit is representative only of the broad range of Textile equipment now being offered by Tower.

Our engineers will consult with you in the design and installation of the finest in textile equipment, to meet your most exacting operational requirements.

Write for free booklet on Tower Textile Equipment

IRA L. GRIFFIN & SON
Charlotte 1, North Carolina
Southern Representative

Tower Iron Works
Established 1835
50 BORDEN STREET, PROVIDENCE 3, RHODE ISLAND

may be accomplished as the coated fabric leaves the oven. This eliminates the necessity of rehandling and reheating for this operation.

In all cases, it is important that the ovens be designed to give maximum protection against fire. Many designs incorporate sprinkler or carbon dioxide heads within the oven. Safety of operation must be a prime consideration in purchasing or building this type of equipment.

Alabama TOE Spinning

(*Continued from page 112*)

The same yarn number from 1.0-hk. ran at 60 ends down. 21s warp made from 1.0-hk. gave 55 ends down compared with 35 ends down when the mill made 21s from 2.50-hk. roving.

Report on Antifriction Spindles

Mill F: We are using two types of antifriction spindles and about 4,000 of them have been running 18 mo. with few failures. The new spindles are much cheaper to maintain. Our yearly bolster cost alone used to be $35 per frame. We are also saving on oil and by increased production because no ends are down for spindle oiling. Our ends down per thousand spindle hours, incidentally, were 45 and are now 35.

Mill N: A good portion of our job is being changed to antifriction spindles. We like them.

Mill A: Ball-bearing spindles, both

Safety Highlights

Here are a few quotes from the guest speaker at the Auburn meeting, Thomas L. Carroll of the National Cotton Council.

"Unsafe acts of persons account for 88% of all accidents. Only 10% are due to mechanical or unsafe conditions. The other 2% can be attributed to the human factor."

"Accident prevention must be considered a separate part of mill operation."

"Don't allow a safety program to be centered on the prevention of specific lost-time accidents of the past. The program should be aimed at all accidents."

"No program will work unless there is interest stimulation, fact finding to determine causes, and action to make the program operate."

ONLY KIDDE EXTINGUISHERS HAVE IT!

Only Kidde extinguishers have the patented Diffuser Horn that blankets fire with a cloud-like pattern of dry chemical, that cuts down on the danger from splashing of burning liquids. Even an inexperienced operator can attack a fire without fear from behind the "cool" protective wall of powder that's set up.

Only Kidde Dry Chemical Extinguishers give you all these extras.

Remember, if you want all the fire protection you can get for your money, get a Kidde Dry Chemical Extinguisher.

Kidde Dry Chemical Extinguishers can be used in normal standing position. Just pick up, point the horn, pull the trigger.
Streamlined diffuser horn gives better discharge pattern which provides greater space coverage and more protection for the operator.
Kidde

Kidde

Walter Kidde & Company, Inc.
791 Main Street, Belleville 9, N. J.
Walter Kidde & Company of Canada, Ltd., Montreal, P. Q.

 For more information, write direct or use Reader Service post card.

...New Warehouse Facilities for Atlantic Steel Company Warehouse Division

TO PROVIDE YOU with a wider variety of steel warehouse products and services, a new, modern warehouse is being constructed on a nine-acre tract near our new electric furnace and plant.

Modern railroad siding and truck docking facilities will further improve the rapid service for which our Warehouse Division has already gained a good reputation.

We expect to be in our new home by early fall.

Meanwhile, we are carrying on business from the same old stand with the same enthusiasm and policies that have guided us through five years of service.

If you have a problem involving steel supply or service, give us a shot at it.

Service In Step With Southern Progress

WAREHOUSE DIVISION
Atlantic Steel Company
ATLANTA, GEORGIA • EMERSON 3451

the rubber-mounted and oil-cushion types, and very satisfactory from the standpoints of performance and maintenance. We re-grease these bearings every 4 yr., and we had to replace a few last time around. We did have some trouble on the initial installation of roller-bearing spindles. Our roller-bearing twister spindles, however, have been good. The spindles have a good knee brake and require little maintenance. The blades are large and seem to be tempered properly so that there is no distortion in operation.

Mill R: Antifriction spindles are much more economical to operate and maintain, and we are sure that they give better performance.

Mill L: We have four frames with antifriction spindles that have been running 36,000 hr. We find that these spindles need 12% less power and have to be oiled every 3,000 hr. (as compared with every 144 hr. for the gravity type). The new spindles also produce less vibration.

Mills Differ on Ball-Bearing Top Rolls

Almost 12,000 ball-bearing rolls are in use at Mill A. The average life of the bearing is estimated to be 4 to 5 yr. Cost of replacing the bearings is 25¢ per roll. After the rolls had been in use for about 6 mo., there were complaints that they didn't turn properly on the startup. The mill thinks that a different distribution of weight may be causing the trouble because the arbor is smaller at the contact point on the saddle, but the trouble can perhaps be remedied by building up the saddle to compensate for the difference in diameter.

Mill *N* is giving up on antifriction top rolls because their experience has not been good.

Since ball-bearing top rolls of the newer type (with heavy necks and spindles) have been put on, Mill *F* has had few failures. And the new rolls so far haven't cost any more to maintain than the old rolls.

Some trouble in cleaning antifriction top rolls has been experienced by Mill *R*. Lint gets beyond the retainer ring and is difficult to remove. Even though this mill has found the new rolls harder to oil and buff, it still considers them more economical because of the less frequent oiling.

Is It a Good Idea to Change Break Draft?

No, says Mill *F*. This mill has done tests on four-roll H&B frames and Casablancas system, with a range of yarn numbers from 12s to 25s, and found no advantage in changing the

For more information, write direct or use Reader Service post card.

OUR TIME IS YOUR TIME

If you are faced with the task of finding a new plant location, let us help you. Our experience and knowledge in this important field will save you valuable time and money.

Our Industrial Department has assisted some of the country's largest concerns in their plant location problems. An outline of your requirements will bring specific, concise surveys on locations suited to your individual needs.

Our time is your time, without obligation or cost to you.

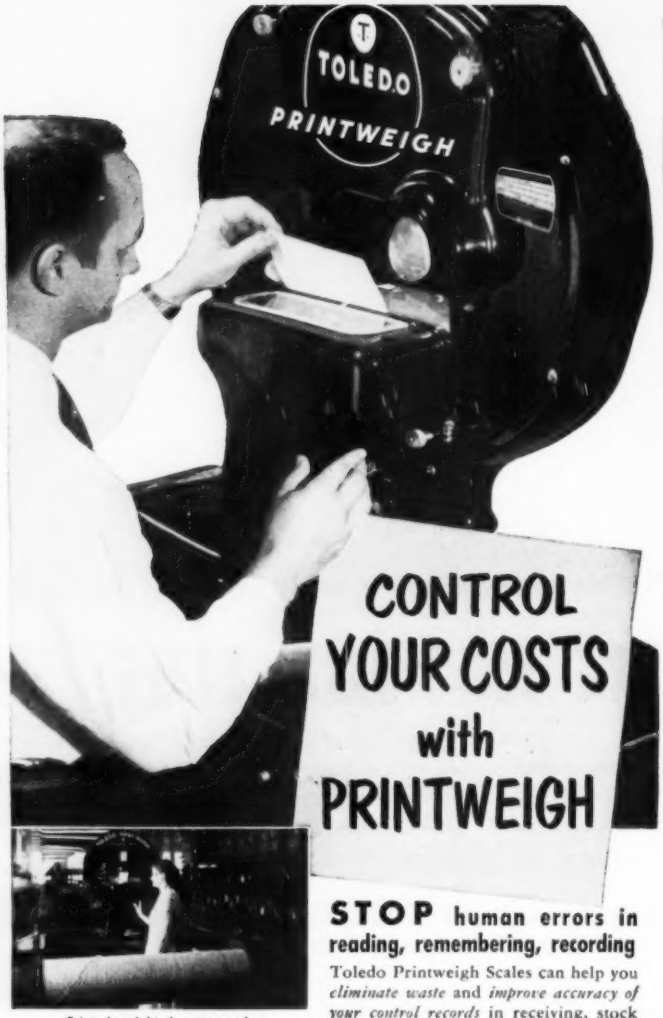
Address: Warren T. White, Assistant Vice President,
Seaboard Air Line Railroad,
Norfolk 10, Virginia.

GROW with the GROWING SOUTHEAST!

SEABOARD AIR LINE RAILROAD

THROUGH THE HEART OF THE SOUTH

 For more information, write direct or use Reader Service post card.



CONTROL YOUR COSTS with PRINTWEIGH

Printed weights keep records RIGHT in textile weighing!

STOP human errors in reading, remembering, recording

Toledo Printweigh Scales can help you *eliminate waste* and *improve accuracy of your control records* in receiving, stock rooms, batching, shipping and other operations in all plants today!

Printweigh stops errors . . . provides *printed* weight records . . . assures you that the accurate indication of the Toledo dial will reach your accounting records without chance of human error. Prints *directly* in big, clear figures . . . on thick tickets . . . on large or small sheets . . . on strips . . . with extra copies. Saves time, stops losses, assures *accurate* weights *accurately* recorded! Send for bulletin 2021 on modern weight control. Toledo Scale Company, Toledo 1, Ohio.

On your scale MATERIAL becomes MONEY

TOLEDO®

HEADQUARTERS FOR SCALES

break draft. According to the mill, changing might be advantageous on some types of frames or on extremely high drafts.

Yes, according to Mill *N*, which changed break draft from 1.20 to 1.30 after experimenting with break drafts as high as 2.20. A draft of 1.20 gave the best break factor and lowest number of ends down.

Mill *C* changed from 1.26 to 1.35 and doesn't have to change break draft when roving varies as much as 0.50 hk.

Mill *L* changed break draft from 1.14 to 1.29 to see if ends down when creeling roving (ring rail at the bottom) would be reduced. There was no appreciable change.

Mill *P* uses the same break drafts for 1.50-hk. single roving as it formerly did for 3.40-hk. double roving, now that high-draft cradles are being used. The same break draft is used for 1.80-hk. roving also.

Pointers for Supervisors

(*Continued from* page 131)

patient to avoid humiliating individuals whose comments indicate confusion or misunderstanding. In the over-all, this phase calls for your best efforts—it is here that you determine how good a job you have done.

Round-Up of the "High Spots"

When you are satisfied that the group has complete understanding, you should go over—in simple, concise language—the "high spots" of the material covered. Dwell especially on any changes from existing practices. This may seem redundant, yet it can be the "clincher" for a few individuals in the group who are still a bit confused but hesitate to ask any more questions. This is the sort of finish that can assure you of a 100% score for effectiveness in getting your story across to your people.

Slashing Synthetics

(*Continued from* page 104)

will be prominent in the cloth. In addition, yarn brittleness, increased shedding of fibers, and breakouts will affect the weaving of the cloth.

Warps should be sized to a moisture content of 0.5 to 1.0% less than the normal relative humidity of the weave room if set marks are to be eliminated.

The technical "know how" of mixing sizing compounds and the mechanical application of those compounds will result in properly sized warps.

Famed *Garan* Finish now exclusive with L·O·F Fiber·Glass

Plastics reinforced with Garan Finished Fiber·Glass have outstanding flexural and compressive strength, superior weatherability and wet strength. Ideal for aircraft and a wide range of industrial applications.

L·O·F Garan Finish imparts outstanding properties to Fiber·Glass-reinforced plastics

Now, L·O·F has the exclusive rights to the famous Garan Finish. Widely used on the west coast in industrial fabrics, it is now available on a nation-wide basis for greatly improved reinforced plastics.

The L·O·F Garan Finish imparts properties of higher flexural and compressive strength and increases the translucency of Fiber·Glass-reinforced plastics. What's more, there is little loss in these properties after such plastics are exposed to high humidities or immersed in water. Laminates made with L·O·F Garan Finished Fiber·Glass retain virtually all their wet strength after prolonged exposure. Losses in flexural strength of less than 10% have been shown. And moisture absorption after 24 hours' immersion has been less than 0.1%.

For more information on how L·O·F Garan Finished Fiber·Glass can give superior reinforced plastics, contact the nearest L·O·F office (district offices in 24 major cities). Or write, wire or phone Libbey·Owens·Ford, Dept. F·G 1772, Nicholas Bldg., Toledo 3, Ohio.

L·O·F GLASS PLASKON FIBER·GLASS

LIBBEY·OWENS·FORD GLASS COMPANY
FIBER·GLASS DIVISION

Both polyester resins and Fiber·Glass for reinforced plastics available through Plaskon Division District Offices

FIBER·GLASS

Save Money. Save Floors. Save Effort. Save Equipment. Save Time and Temper. All these advantages are yours when you install Darnell

DARNELL CORP., LTD.
DOWNEY, (Los Angeles County) CALIF.

60 Walker Street, New York 13, N.Y.
36 North Clinton, Chicago 6, Illinois

New Loom Attachment

(*Continued from page 115*)

Here Are the Advantages

The maximum pickage that can be woven with the aid of the attachment depends on the compressibilities of the particular yarns that are used and not on any mechanical restrictions of the attachment.

As an example, an attempt was made to insert 76 picks per in. in a woven fabric. No difficulty was experienced in operating the loom, but pick counts made on the woven fabric revealed only 72 picks per in.

To evaluate the water-resistant qualities of the high-pickage cotton fabric, a 36/2 ply warp yarn and 18/2 ply filling yarn were woven into a 64-pick-per-in. tarpaulin fabric and used to cover the pitcher's mound on a baseball field in New Orleans. The pickage was 23% greater than the maximum that could have been woven in the conventional way. The fabric was not treated for waterproofing. The fabric was 30% lighter than waterproofed fabrics, and the ball-club officials reported that it was superior to any other fabric they had used from both ease of handling and water resistance.

Other samples of the tight-pickage fabric were placed on open outdoor racks in Jan., 1951. Tests showed that the fabrics did not leak at the end of 6 mo., and the hydrostatic pressure required to cause water to penetrate the sample decreased only 5%, as compared with 41% for a commercial chemically-treated sample.

A U. S. patent to cover the attachment is pending and, if granted, will be available for license in the U. S.

Carding and Spinning

(*Continued from page 103*)

the right preparatory department. Once the stock passes the picker room, you're not going to do much more blending on regular cotton-mill machinery. You can draft it and double it, but the stock is going all through the mill blended very much as it was when it came through the card.

Question: What type of beaters do you use on the picker?

Answer: Kirschner. We think that this beater gives a better carding action without much damage to the fibers. Four beaters in opening and picking won't hurt you. We think the Buckley beater damages the fiber more than the Kirschner but not as much as a blade beater.

Q: Have you used a fringe roll?

A: We've experimented with them,

For more information, write direct or use Reader Service post card.

International Salt Company's Industrial Engineers Will Show You How to

PROFIT BY THESE 4-WAY SALT SAVINGS

1. SAVINGS ON STORAGE by engineering the most efficient and compact salt storage system to fit your situation.

2. SAVINGS IN LABOR by reducing effort and supervision involved in salt or brine handling.

3. SAVINGS ON WASTE through accurate salt measurement and elimination of spillage and spoilage.

4. SAVINGS IN USE. Research and field work with hundreds of industries in many fields equip International to show you how best to utilize salt in your product processing—and for product improvement, too.

If your company uses salt, it will pay you to call on International Salt Company's Industrial Division.

Without obligation to you, this experienced staff of experts is at your service to inform you on latest salt developments in your field and to help on all phases of salt handling and storage, brine making, and salt and brine uses. They can help you save money four ways—and, on the record, the savings can be substantial.

A Complete Service

International Salt Company's Industrial Division is maintained as a service to industry by one of America's foremost salt producers.

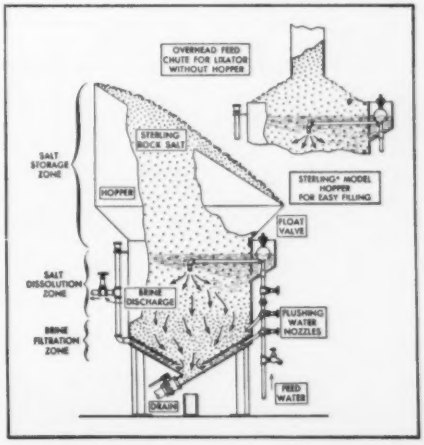
This company produces all types of salt and operates from strategically located mines and refineries. The scope of its operation necessitates familiarity with latest salt developments in every field, many of which have been pioneered by International Salt Company.

LIXATOR*—A NOTABLE EXAMPLE

The Lixator is one of International's outstanding advances in salt technology. Utilizing Sterling Rock Salt, the Lixate principle of self-filtration, invented and developed exclusively by the International Salt Company, provides a steady flow of pure, clean, fully saturated brine.

No handling or attention is required beyond the hopper-loading stage—gravity does all the work. The Lixate Process is adaptable to almost numberless industrial requirements, large or small.

* Reg. U. S. Pat. Off.



INTERNATIONAL SALT COMPANY, INC.

Scranton 2, Pa.

SALES OFFICES: Atlanta, Ga. • New Orleans, La.
Boston, Mass. • St. Louis, Mo. • Newark, N. J.
Buffalo, N. Y. • New York, N. Y. • Cincinnati, O.
Philadelphia, Pa. • Pittsburgh, Pa. • Richmond, Va.

STEEL

Every Kind

Some steel products are in short supply but over-all stocks are still large, diversified

Plates, Structurals, Bars, Sheets, Tubes, etc. . . . Carbon, Alloy and Stainless Steels . . . .

RYERSON

Joseph T. Ryerson & Son, Inc. Plants: New York, Boston, Philadelphia, Detroit, Cincinnati, Cleveland, Pittsburgh, Buffalo, Chicago, Milwaukee, St. Louis, Los Angeles, San Francisco, Seattle, Spokane.

SHIP HOSIERY MACHINES

In One Piece

Save Time and Money

Turner Transfer offers you complete service in processing and packing of full fashioned hosiery machines *plus* the finest machinery moving organization in the United States. We have processed, packed and shipped over 3,000 full fashioned machines abroad in the past four years. Satisfaction guaranteed. Call for consultation and quotations.

TRUCK MOVEMENT OF NEW AND USED MACHINERY IN UNITED STATES, CANADA AND MEXICO

Turner Transfer INC.

MOVING ENGINEERS

READING, PA.
Box 61—Birdsboro 2-2451

GREENSBORO, N. C.
Box 175—Phone 2-0171

but they haven't done anything for us.

Q: How fast should the beater run?

A: As slow as practical. Also, the card lickerin should be slowed down considerably. You can card from 14½ to 18¼ lb. per hr.

Comment: The blade beater is better for cleaning, and the Kirschner is better for opening the stock. On synthetic fibers, you don't have a cleaning problem but you do have an opening problem.

Q: In running 3½- and 4-in. staple, would you recommend a coarser card-clothing wire, say 70, 80, or 90, rather than 100 or 110?

A: We recommend 90 wire for any size fiber above 3 den. As you know, 3 den. fiber is about twice as coarse as cotton, which runs about 1.5 den.

Synthetic Fibers

(*Continued from* page 102)

very well with combinations of woolens and worsteds. They have certain virtues that the wool fiber itself does not have; and, when blended in the proper proportion, it is possible to construct fabrics that are better than we make with the natural fiber.

It will be a long time, I think, before synthetics replace some of the natural fibers; but there is a definite field for them now, and when properly used they will prepare and produce materials that are of superior quality. I think that as time goes on we shall find more and more synthetics, both in 100% use and also in combinations with natural fibers.

Carding Practices

(*Continued from* page 111)

Double-Apron Roving

With the old cradles, Mill *DD* says that the double-apron system is fine for drafts up to 15. Mill *FF* has the new cradles and drafts from 17 to 33. Mill V has the double-apron system with standard cradles and likes it for 2.00-hk. work and finer. This mill prefers the plain four-roll system for coarser work.

More Twist in Back-Line Roving?

Eight mills say that there's no difference in roving from the front and back lines of spindles, but seven other mills have this to say about back-line roving:

1. Back line gives more uniform work.

2. Front-line roving is stretched out

Check these features

Kidde-Aveco Tricot Machine turns out Quality Fabrics at High Speed

Where you want fast production of improved quality fabric use the Kidde-Aveco High Speed Tricot Machine.

Brakes for controlling the beams have been replaced by a mechanical continuous let-down. The ratchet take-up has been replaced by a new continuous take-up. A high starting torque motor equipped with quick stop is used to minimize the periods of acceleration and deceleration. These changes improve fabric quality . . . eliminate shade marks . . . reduce stop marks so that they usually dress out.

✔ **NEW CONTINUOUS LET-DOWN.**
It is easy to set and maintain because it's mechanical in operation. It completely eliminates shade marks and reduces stop marks. Fabric quality is improved.

✔ **NEW VARIABLE SPEED DRIVE.**
A turn of a hand wheel varies machine speed. No chain drive . . . no gears to be changed . . . quieter operation. Tachometer included.

✔ **NEW CONTINUOUS TAKE-UP.**
It permits quality to be established quickly by turning an adjustment screw. No gears or sprockets to be changed. No clutch. Once set, it requires no adjustment.

✔ **OTHER FEATURES**
These include improved plunger design, improved front guide bar lifting mechanism, quick-stop and jogging control.

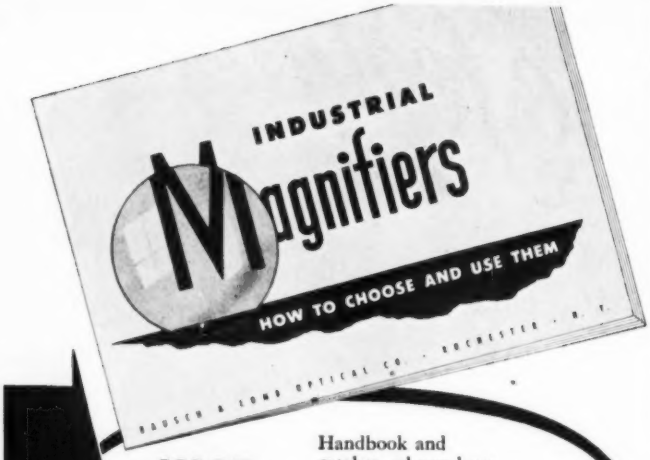
Left end of machine showing enclosed gear box, pattern mechanism, motor and controls.

KIDDE MANUFACTURING CO., INC.,
BLOOMFIELD, N. J.

Kidde-Aveco

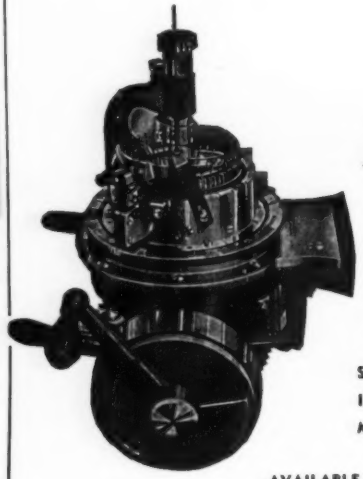
FOR TOP-QUALITY FABRICS

Right end showing continuous let-down and take-up.



JUST OFF THE PRESS!

Handbook and catalog—shows how to select magnifiers to speed production, cut waste, reduce costs. Explains magnification, working distance, fields of view for all types. Write: Bausch & Lomb Optical Company, 50107 Bausch St., Rochester 2, N. Y.



Argyle production

AT

MINIMUM COST

HARLEY-KAY-MARSLAND

SEMI AUTOMATICS ARE PRODUCING ARGYLES EFFICIENTLY IN MILLS THROUGHOUT THE WORLD

AVAILABLE IN

4" DIAMETER 80-112 NEEDLES
4½" DIAMETER 60-88 NEEDLES

Complete Range of Accessories—For Information Write

GEORGETOWN HARLEY-KAY-MARSLAND LTD. ONTARIO
ESTABLISHED 1906
CANADA

across 4 in. more; so the greater variation is to be expected

3. Roving from the back line is slightly harder
4. Twist in the back line is greater and more uniform
5. Roving made on the front line is lighter
6. The longer pull to the front line produces a difference
7. The back strand leaves the front-roll nip at a 40° angle; the front strand comes out at a 20° angle. Therefore, we believe that there is more twist in the back line and that there is more dead-weight drag on the front line.

Percent Unevenness

(*Continued from page 97*)

tional to its average weight per unit length, relation (6) may be written

$$\text{Average percent unevenness} = \frac{B}{\sqrt{\text{wt. per unit length}}} \quad (7)$$

where B is a proportionality constant and the weight per unit length may be expressed as grains per yd., grams per yd., denier, etc.

Again, in the case of yarns, the average number of fibers per cross-section is inversely proportional to the yarn number; that is, the higher the yarn number, the lower the number of fibers in the yarn cross-section.

This leads immediately to equation (8).

$$\text{Average percent unevenness} = \frac{C}{\sqrt{\text{Yarn number}}} \quad (8)$$

C is a proportionality constant.

By substituting a series of values of yarn counts and their respective average percents unevenness into equation (8), we can find an average value of C; but it must be kept in mind that the calculated value of C is valid only for the type of yarn for which it was determined. In other words, the value of C for 3-den. staple-rayon yarn is not the same as the value of C for yarns spun from 58s quality wool. This is a logical limitation because the 1/20s yarns in the two cases have an altogether different number of fibers in their cross-section.

If we want to compare the quality of several yarns where each yarn is made up of fibers of a cross-sectional area different from the others, we must use equation (6).

Examples and Applications

Example: Find the value of C for a 1/20s yarn whose average percent unevenness is 60.

From equation (5)

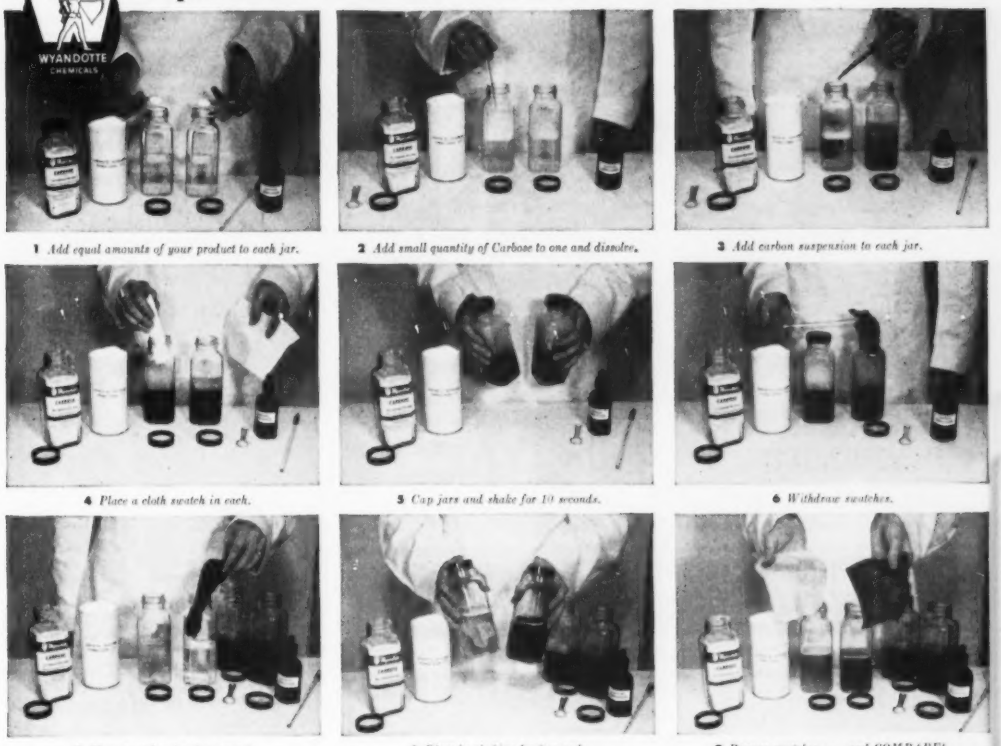
$$C = \frac{\text{Average percent unevenness}}{\sqrt{\text{Yarn number}}} \quad (9)$$

$$= \frac{60}{\sqrt{20}}$$

$$= 13.45$$

With the average values of C determined for the various types, it is a simple matter to plot average percent unevenness

Dependable Source for Chemical Raw Materials



1 *Add equal amounts of your product to each jar.* 2 *Add small quantity of Carbose to one and dissolve.* 3 *Add carbon suspension to each jar.*

4 *Place a cloth swatch in each.* 5 *Cap jars and shake for 10 seconds.* 6 *Withdraw swatches.*

7 *Place swatches in rinse water.* 8 *Rinse by shaking for 5 seconds.* 9 *Remove swatches . . . and COMPARE!*

Make Wyandotte's 2-minute soil deposition test yourself. See how Carbose boosts the performance of *your* detergents and soaps.

BULLETIN BOARD

Kreelon*®:
New improvements in this alkylarylsulfonate have greatly increased solubility, wetting action, and detergent effectiveness. Report on properties and performance is available on request.

Caustic Soda:
Supply is currently good; and our increasing production is geared to handle growing demands. Our rayon-grade caustic, by the way, is **naturally pure** . . . virtually free from sodium chloride and chlorate, iron, and other impurities. Samples.

"Wyandotte and the Textile Industry":
Write for this pamphlet briefly describing properties, application and shipping information of Wyandotte's line of products for the textile field.

Carbose® VL:
Lowest-viscosity sodium carboxymethylcellulose ever available, our new Carbose VL has properties which suggest advantageous applications in textile-processing operations such as warp sizing, dyeing and finishing. Write for samples.

Soda Ash, Chlorine:
Production of these chemicals is being increased, although current supply is adequate. Expansion of facilities is in anticipation of growing demands.

ONE PERCENT Wyandotte Carbose improved detergency up to 40%!

It's no surprise! In carefully controlled tests on cotton, this outstanding "detergency promoter"— as little as 1%— *increased soil removal and whiteness retention from 10% to 40%* in a number of different formulations with synthetic detergents and builders.

The promoting properties of CARBOSE make it a valuable assistant to either syndets or soaps, with or without builders, for kier boiling, scouring and other wet-processing operations, resulting in greater mileage from your detergent solution, more effective cleaning at a considerable saving of raw materials.

This superior product is typical of Wyandotte. For the quick facts on current production, improvement and development of other Wyandotte chemicals for textile operations, read the "Bulletin Board," left. For samples that you can test yourself, and for more complete information, write— *Wyandotte Chemicals Corporation, Wyandotte, Michigan. Offices in Principal Cities.* REG. U.S. PAT. OFF.

Wyandotte
CHEMICALS
FOR TEXTILE PROCESSING

if your weaving operation is on this list . . .

- Bedspreading
- Corset Fabric
- Cottons
- Damasks
- Duck
- Elastic
- Fibre-glass
- Flannels
- Novelty Fabrics
- Rayons
- Silks
- Terry Towelling
- Tie Silks
- Upholstery
- Woolens
- Worsteds

you need individual selvage

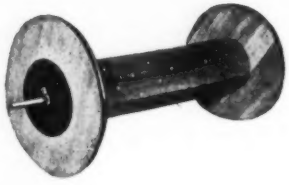
TRIM MASTER

You will trim selvage threads faster and cut your inspection costs with the Individual Selvage Trim-Master. Can be installed easily adjacent to any standard inspection frame or winding device. Close up above shows Trim-Master head past which cloth flows.

Improve your trimming operation today. Investigate the Individual Selvage TRIM-MASTER. Write, phone or visit.

GINSBERG MACHINE CO., INC. 224 Fifth Ave., New York 1, N. Y. • OR 9-1700

Sole International Distributor for Textile Trimming & Boarding Machine Co., Inc.



SHELL ROLLS
BLEACHING ROLLS
CLOTH ROLLS
WHIP ROLLS
HIGH SPEED WARPER BEAMS

LOOM BEAMS
TEMPLE ROLLS
WOOD TOP ROLLS
TOP WORKMANSHIP
TOP QUALITY
TOP DELIVERY

WILLIAM McCASKIE, INC.

Wooden Textile Specialties

FORGE ROAD WESTPORT, MASS.

against yarn number for the different C's or yarn types. The general nature of such a curve is shown in Fig. 1.

Although we at Thor have verified the preceding theory through extensive tests on various types of yarns and slivers, one may readily ask what has been accomplished by deriving statistically and verifying practically the relations (7) and (8). The answer is that the inevitable yarn or sliver unevenness can be statistically controlled and any wide variations outside these limits can be discovered and eventually remedied.

Application:

A range of yarn counts from 1/6s to 1/30s was spun on a conventional roller spinning frame from a very heavy roving. Unevenness tests were taken on the resulting yarn (see Table I).

Since, in Table I, the value of C has taken on a variable personality we may conclude that the spinning operation was not statistically controlled. If the value of C, which has become a variable, is plotted against draft for all values in Table I, a smooth curve will result.

It is evident that with rising draft the yarn becomes more uneven, i.e. as the draft increases, C increases. This result could mean that the original equation (5) is at fault, or that there are desirable drafts for best spinning.

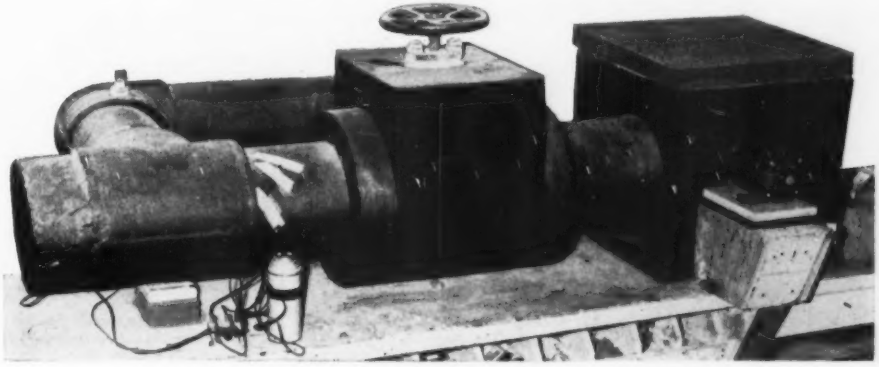
As a further test, (Table II), 1/20s and 1/30s were next spun from a lighter roving, all other conditions equal. The resulting values of C correspond closely to the values obtained under similar drafts from spinning with the heavy roving. Thus, from the compatibility of results, equation (5) is not at fault, but there is a draft range (low in this case) in which a yarn will be of the best quality.

The 1/20s and 1/30s in Table II spun from the lighter roving are more even than the same yarn numbers spun from the heavy roving. At the same time the values of C corresponding to the drafts for the 1/20s and 1/30s spun from fine rovings are higher than the C's for the same draft using heavy roving. Thus, in the case of Table I, the combined effect of low roving draft and high spinning draft had a more harmful effect on yarn quality than did the combination of a higher roving draft and a lower spinning draft, as in Table II. In this case, then, we came to the conclusion that the lower the spinning draft, the better the average percent unevenness of the resulting yarn.

This result is not new but verifies that which has been practiced by experienced spinners for years. Following the above procedure, one may deduce desirable draft ranges for those spinning frames designed for high drafts. The method set is also equally applicable to all other drafting or drawing operations.

A 30-grain-per-yd. sliver was found to have an average percent unevenness of 20. Converting 30 grains per yd. into worsted count and substituting into equation (6), C is found to be 31.7. With this value of C a 20s worsted-count yarn spun eventually from the 30-grain-per-yd. sliver would be 140% uneven. Since the 20s yarn spun was only 60% uneven in reality, this result immediately leads to contradiction. The yarn is more even than the sliver,

ON THIS APPARATUS, 3" FOAMGLAS Pipe Covering was tested for a period of one year, cycling between *minus 100° and plus 350° F.* The test was designed to accelerate any deterioration that might occur under actual field conditions. A total of 52 cycles was completed, with no loss of insulating efficiency.



THIS DUAL-TEMPERATURE TEST PROVED

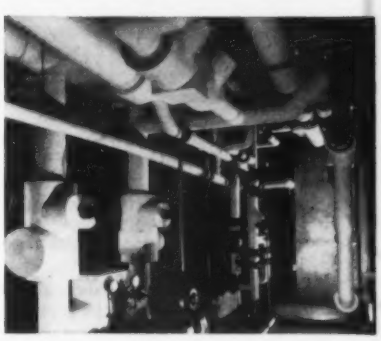
"No loss of insulating efficiency"

● Its ability to withstand *both* extremely low and high temperatures —over long periods of time—has won wide preference for FOAMGLAS among mill owners. It is being used successfully on chilled water lines, steam and process piping. FOAMGLAS has also proved its effectiveness as structural insulation in walls, floors and roofs of weave rooms, dye houses and bleacheries.

The insulating efficiency and durability of FOAMGLAS are due to its cellular glass construction, which prevents moisture and other harmful elements from getting into the material. So it will not get soggy, slip out of place, rot or shrink, as do ordinary materials which constantly need costly maintenance and finally have to be replaced.

Get the latest information on FOAMGLAS whenever you need insulation. Just send the coupon for a sample of the material and copies of our authoritative booklets.

PITTSBURGH CORNING CORPORATION • PITTSBURGH 22, PA.



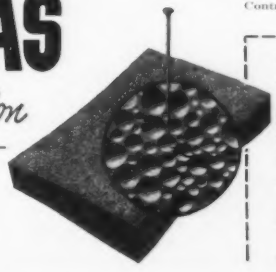
FOAMGLAS insulates these chilled water and heating lines. A canvas and paint finish is shown on the insulation. General Contractor: Beers Construction Co., Atlanta, Ga. Insulation Contractor: North Brothers, Atlanta, Ga.

PITTSBURGH PC CORNING

FOAMGLAS®

the cellular glass insulation

The best glass insulation is cellular glass. The only cellular glass insulation is FOAMGLAS. This unique material is composed of still air, sealed in minute glass cells. It is light weight, incombustible, verminproof. It has unusually high resistance to moisture, chemicals and many other elements that cause insulation to deteriorate.



Pittsburgh Corning Corporation
Dept. V-72, 307 Fourth Avenue, Pittsburgh 22, Pa.

Please send me, without obligation, a sample of FOAMGLAS and your FREE booklets on the use of FOAMGLAS for Normal Temperature Commercial, Industrial and Public Buildings ☐ Piping and Process Equipment. ☐

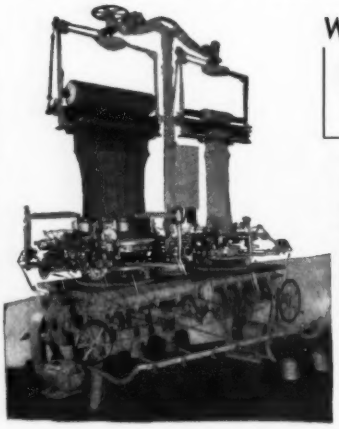
Name .....

Address .....

City ..... State .....

ACTUAL MACHINE COMPARISONS REVEAL

LOWER COST PER YARD
WITH PERFECT CLOTH ALL THE WAY!



WRITE FOR
NEW DATA SHEET
just completed!

This new data sheet gives you the kind of cost, production and quality information you've been looking for—it shows actual machine comparisons with the NEW TOMPKINS D-2 DOUBLE HEAD SPRING NEEDLE KNITTING MACHINE shown here. The subjects covered include: Fabric Flexibility; Perfect Rolls of Cloth; Needle Breakage Reduced One-Half; and Needle Savings!

—WRITE NOW FOR YOUR FREE COPY—

TOMPKINS BROS. CO.
629 ONEIDA ST. SYRACUSE 4, N. Y.

Spherical Tanks on
Tubular Towers

The COLE Spherical Tank on Tubular Tower is unique in its field. We design and erect special tanks of this character. It provides an attractive and serviceable unit—economical to maintain, efficient in service and pleasing in appearance.

Write for special booklet on these modern, welded Spherical Tanks which provide gravity water pressure, and for copy of latest Cole catalog, "Tank Talk."

Established 1854

R. D. COLE MFG. CO.
NEWNAN, GEORGIA

ELEVATED TANKS • VESSELS • CYLINDERS
TOWERS • BINS • STANDPIPES

relatively speaking. This condition might have been possible had a number of doublings taken place during roving and spinning, but such was not the case. Consequently the yarn unevenness under the best possible spinning conditions should be 140% for 20s and practically even a greater value. It was later deduced after many tests that the only other cause for the incompatibility lay in the reading or interpretation of the tester charts themselves; for if the 30-grain-per-yd. sliver is subjected to a draft of 50 to produce 20s worsted count, then the short-term irregularities of the sliver become long-term variations in the yarn. These long-term variations, of which only one or two at most are included in a test chart of yarn, lay the basis for the maximum percent unevenness of the yarn. A sufficient length of 1/20s yarn was later tested and its maximum percent unevenness was 138%.

A further aid in comparing values of average percents unevenness follows from equation (3):

$$\text{Average percent unevenness} = \frac{A}{\sqrt{N_s}} \qquad (3)$$

Where N_s is the average number of fibers in the yarn or sliver cross-section. Then since the number of fibers in the cross-section is proportional to the product of the groove-width and true average thickness of the yarn or sliver we have

$$\frac{U_1}{U_2} = \frac{\sqrt{W_2 \times T_2}}{\sqrt{W_1 \times T_1}} \qquad (7)$$

where the U is average percent unevenness
W is groove width
T is true average thickness

Or in the case where the same groove is used

$$\frac{U_1}{U_2} = \frac{\sqrt{T_2}}{\sqrt{T_1}} \qquad (8)$$

Unevenness Standards

(Continued from page 99)

readings every 5 yd., or at each ¼ in. of the closed curve. Long-range closed curves are also invaluable for visual comparisons.)

If an operation has altered evenness either way, the change in K-values will indicate such damage or improvement. If evenness has been maintained, K-numbers will be identical.

When you're setting up an operation and want to know what draft to use with what weight of feed, the K-numbers will tell you what combination is best as far as evenness goes.

2. To Compare Slivers, Rovings, and Yarns of Different Weights

If you want to compare materials of different weights that had to be tested in different grooves, you can use another of Mr. Chandler's formulas—the one that notes the inverse relationship of percent unevenness to the square root of groove width times thickness. (If groove width was the

For QUALITY

SOLVAY chemicals for textile processing are uniform products of exacting quality.

For TECHNICAL SERVICE

SOLVAY's exclusive textile Technical Service offers you the services of *textile specialists* to advise you on the best way to handle and use these products in your textile operations.

For SALES SERVICE

—with accent on the word "service", SOLVAY has thirteen sales offices and a coast-to-coast organization of distributors ready to serve you.

For IMMEDIATE DELIVERY

You can count on SOLVAY's centrally located plants and over 200 stock points to give you on-time delivery of the chemicals you need.

THE SOLVAY PROCESS DIVISION
ALLIED CHEMICAL & DYE CORPORATION
61 Broadway, New York 6, N. Y.

BRANCH SALES OFFICES

Boston • Charlotte • Chicago • Cincinnati • Cleveland • Detroit
Houston • New Orleans • New York • Philadelphia • Pittsburgh
St. Louis • Syracuse

SOLVAY
Alkalies Chemicals
Since 1881

Soda Ash • Caustic Soda • Chlorine
Caustic Potash • Potassium Carbonate • Calcium Chloride
Sodium Bicarbonate • Specialty Cleansers • Sodium Nitrite
Para-dichlorobenzene • Ortho-dichlorobenzene • Ammonium Bicarbonate • Ammonium Chloride • Monochlorobenzene

for knitters,
throwsters,
mercerizers,
bleachers,
dyers,
and
finishers

textile
soaps, oils, finishes
LAUREL SOAP
MANUFACTURING CO., Inc.
Wm. H. Bertolet's Sons
ESTABLISHED 1909

WAREHOUSES:
PATERSON, N.J.
CHATTANOOGA, TENN.
CHARLOTTE, N.C.

2608 E. TIOGA STREET
Philadelphia 34, Pa.

MILTON
A TIME TESTED LINE
Engineered for Production
MILTON WARP BEAMS
for BROAD, NARROW FABRIC, RIBBON, VELVET, CARPET LOOMS

BROADLOOM BEAMS

For C & K Looms (pictured) and Draper Looms (with let-off gear). Steel barrels, cast iron flanges.

RIBBON LOOM BEAMS

Steel barrels, with your choice of adjustable head and fixed shaft (pictured) or fixed head with removable shaft.

GET THE COMPLETE STORY

Write for Catalog 45 (Steel) or Catalog 45-A (Light Metal)

MILTON MACHINE WORKS, INC.
DESIGNERS • ENGINEERS • MANUFACTURERS
MILTON, PENNA.

same, use the same formula and omit groove widths.)

The effect of doublings on evenness can be checked in the lighter slivers and in all rovings and yarns. For example, test three or four 50-gr. slivers in multiple, and then test the ends singly. If the K-numbers of both tests are the same, the doublings are not aiding evenness. We've found that doubling does not improve evenness as much as is generally believed. However, doublings do improve blending, weight control, and yarn appearance.

Analyze Chart Before Calculating

Take a long, hard look at your chart before figuring maximums, averages, or K-numbers. Cyclic variations should be investigated immediately, because calculations that include repeated fluctuations won't help you at all. You should make long-range closed-curve charts on all samples in order to pick up long-range cycles, weight drifts, and thick or thin spots. Analysis of these factors is just as important to chart analysis as are the calculations themselves.

How Much Should You Test?

For regular testing and control work, 20 yd. has been found satisfactory to obtain dependable results. (It's also a convenient number to calculate.)

The number of samples depends upon individual mill requirements and is more a problem of statistical sampling than evenness testing. Long-range tests of sliver and top should be from 100 to 200 yd. of roving and from 200 to 400 yd. of yarn. Evenness need not be calculated from these, but where weight or thickness variations occur, mean lines should be drawn through the heavy or light sections and the distance from the graph mean calculated to derive the error of weight.

How About Maximums

Maximum percentages of unevenness are based on the 20-yard. test length. Neps, turnbacks, piecings, and other irregular deviations may be discarded in the calculation unless their effect is desired. Most of these defects are eliminated in slub catchers or similar devices. For example, when a sliver has been processed normally and without frequent breakdowns, a piecing that falls within the test length should be discarded in calculations. If a machine is running with frequent breakdowns, however, piecings should be calculated to show their effect. Warning: when certain maximum de-

Economical ——— 1.

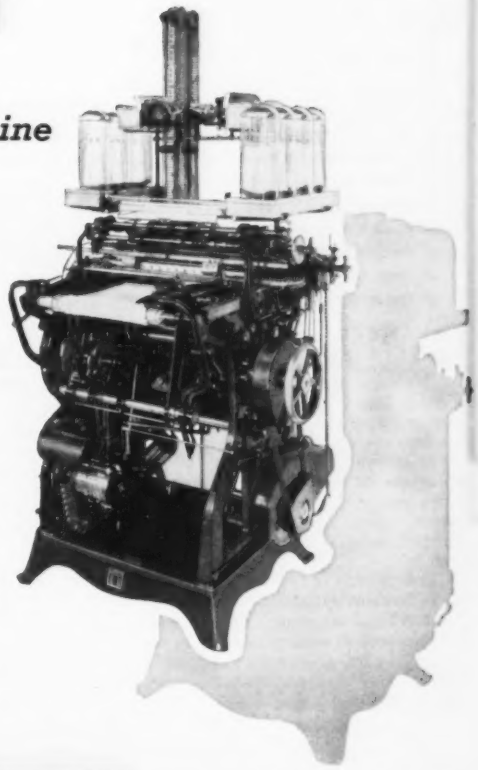
Efficient ——— 2.

Automatic in Operation ——— 3.

The WILDMAN

High Production
Full-Fashioned Hosiery Machine
gives you

ALL THREE!



If needles must be taken out, or adjustments made, only one head is shut down — a top time-saving feature . . . POSITIVE DESIGN eliminates all mechanism failure at high speeds . . . So completely automatic that after a stocking has been started it is not necessary to stop the machine before the stocking has been completed. It then automatically prepares itself to start a new stocking. Produces 16 to 20 stockings per head per 8 hours.

WILDMAN MANUFACTURING COMPANY

NORRISTOWN, PENNSYLVANIA

INCREASE
operator productivity
25% to 100%

Fidelity
SKEIN REELER
offers these improvements

- ✓ Automatic skein-weight control
- ✓ Variable speed control
- ✓ Free-end collapsible reels
- ✓ Adjustable reel size
- ✓ Adjustable yarn traverse
- ✓ Automatic brakemotor
- ✓ Pedal brake release
- ✓ Push button start-stop switch
- ✓ Electric Stop Motions
- ✓ Enclosed drive, safe, compact
- ✓ Universal yarn creels

ADVANCED DESIGN BOOSTS ECONOMIES

New design makes this high-speed Fidelity Skein Reeler so easy to run that one operator can handle several machines. Automatic features increase labor productivity 25% to 100%. Space-saving double end (as shown) and single end models available for cotton, nylon, rayon, silk, wool and worsted yarns, tapes, and laboratory uses.

Job-proven in top mills, Fidelity Skein Reelers outperform all others. Get the brochure on this first radical development in reeling machinery in over 40 years, or simplified production charts to analyze your own reeling operation.

Manufacturers of intricate precision machinery since 1911.
FIDELITY MACHINE COMPANY INC.

3908 Frankford Ave., Phila. 24, Pa., U. S. A.

viations are discarded, be sure to make a note of the omission to accompany the results.

Maximums are very important because they indicate defects that can show in the finished cloth. Maximums and minimums also cause breaks in spinning, winding, and weaving.

Spinning Problems

(*Continued from page 113*)

breakage like that you are really spinning. That end breakage is with the spindles running around 1,800 rpm. With the frame running so fast, much of the trash is knocked out of the yarn.

Question: The spinner puts on the roving (lays up roving) as well as doing the spinning?

Answer: Yes. They have a little cart there, and the spinners carry the roving with them. They take off the roving and hang it on top of the creel.

Q: Of course, there are some disadvantages to that, but we have to admit that there are some disadvantages to having it laid on top of the frame. Do you recall how large the package was?

A. This was an 8x4 package, and they are spinning 40s to 50s yarn.

7. Aligning and Leveling

How often do you align and level frames, clean rolls and aprons, and plumb spindles?

a. We align and level our frames every third year (in a steel-frame building), take out the rolls and clean them every year, and plumb spindles every year.

b. We align and level every year (in a wooden-frame building), take out the rolls every year, and plumb spindles every second year.

Textile Equipment News

(*Continued from page 148*)

visibilty and can drive faster with far less danger of accident.

Tests and applications are said to have proved the advantage of the Standrive design. The savings obtained from clear, unobstructed vision, without stretching and straining by the operator to see around loads, are said to increase both driver and truck efficiency to a remarkable degree.

Non-Chemical Water Treatment Eliminates Scale

A new water-treatment process and equipment called "Hydrotron" has been developed by Heller Laborator-

two great models for TESTING MOISTURE CONTENT in wool, cotton, rayon and nylon

MODEL PD-1 for textiles in loose or compressible forms—3" penetration.

MODEL K-2 for textiles in cones, rolls, beams and similar forms.

Quick, Accurate Readings

In less than 3 seconds you can test moisture content of practically all types of textile materials, including cotton, wool, rayon and nylon in fabrics, packages and loose forms.

This portable instrument is designed for "on the spot" checks in your plant. Moisture Register is easy to operate—requires no technical knowledge or complicated figuring. Cost is negligible in comparison to advantages. Write today for complete details. Specify type of material to be tested.

10-DAY FREE TRIAL!

Try one of these moisture testing instruments for 10 days—use it, test it and prove its superiority. Send samples, moisture range and Purchase Order to cover trial period. No obligation!

MOISTURE REGISTER CO.
Dept. G
1510 W. Chestnut St. Alhambra, Calif.

ELECTRONIC MOISTURE REGISTER
Mfd. by Moisture Register Co. 1510 West Chestnut St. Alhambra, California

START WITH THE FINISH!

Textile gums, starches, and resins look pretty much alike but what a world of a difference there is when you put them to work.

These variations between the different starches and gums—and the reasons why—have been studied, analyzed and put to constructive use by the Stein-Hall laboratories.

The photograph shows a Stein-Hall chemist operating a pilot dextrine converter. Designed by our own engineers this miniature dextrine factory enables our laboratory to analyze each step in the manufacture of gums and dextrines and to control their characteristics and uniformity.

Both through fundamental research and through solving specific practical problems, we have been able to help many textile mills increase production, improve quality and effect substantial economies.

We offer this service to you without obligation.

HALLMARK ® QUALITY PRODUCTS

STEIN SH HALL

285 MADISON AVENUE NEW YORK 17, N. Y.

ESTABLISHED 1866

LABORATORIES IN PROVIDENCE, NEW YORK, CHARLOTTE • BRANCH OFFICES IN 17 CITIES IN U.S. AND CANADA.

Skein or Package Dyers of Synthetic Yarns

NYLON
•
VISCOSE
•
ACETATE

Over 25 years experience • Large capacity all size batches • Prompt delivery • We will dye your yarn or supply our yarn • Standard put-ups available.

Jobbers of Natural Synthetic Yarns

Atlantic Rayon
CORPORATION

Dyers and Converters of Synthetic Yarns for All Industries

Plant at Providence 1, R. I.

NEW YORK REPRESENTATIVE

Empire State Bldg.

Fifth Ave., New York 1

★

ics, Inc., 196 Morgan Street, Jersey City 2, N. J., to eliminate scale in heat-exchange equipment by changing water electro-physically. Minerals contained in treated water crystallize out in the form of a sludge or slurry. The sludge formed can be removed by the usual methods of blowdown.

The treatment is not a water softener. The water is not changed chemically. There is, however, an electro-physical change that takes place, after treatment, in which the process of nucleation is affected.

The equipment consists of a bronze-pipe unit installed in the water-supply line and an electrical control unit, which is mounted in a convenient position nearby. Of simple, sturdy construction, the apparatus is said to require a minimum of care or attention in operation.

The unit has unlimited life expectancy. There are no anodes to replace. Operation cost is only a few cents a month. The initial cost of the equipment is called "moderate," being less than that of a softener of comparable capacity.

The process eliminates the need for a water softener or chemicals for the control of hard-water scale. Known as "Aquastat" in the United Kingdom, and first introduced in the United States in 1948, the process is applicable for boilers, evaporators, condensors, washers, hot-water-supply systems, air-conditioning equipment, and in fact anywhere where mineral scale forms because of hard water.

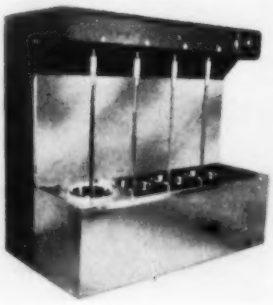
The process is suitable for the treatment of either fresh water or salt water.

New Roller-Chain Fasteners To Replace Cotter Pins

"Rollpins," new roller-chain fasteners that are said to outlast cotter pins ten to one, have been announced by Morse Chain Co., a division of Borg-Warner Industries, 7601 Central Ave., Detroit 10, Mich. They will be available on most of the larger pitches of the company's standard and heavy-series roller chains.

A chamfered-end, slotted steel cylinder that compresses easily into a pin hole smaller than its own diameter,

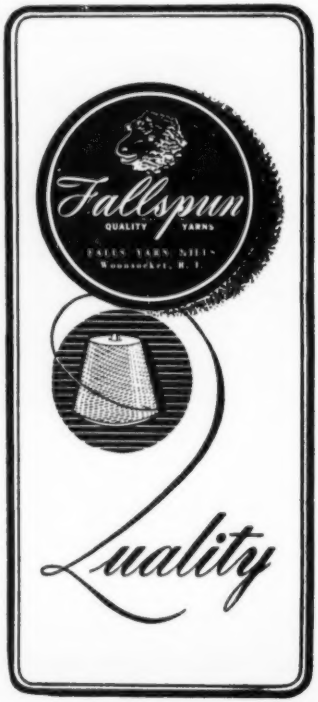
THE
TERG-O-TOMETER

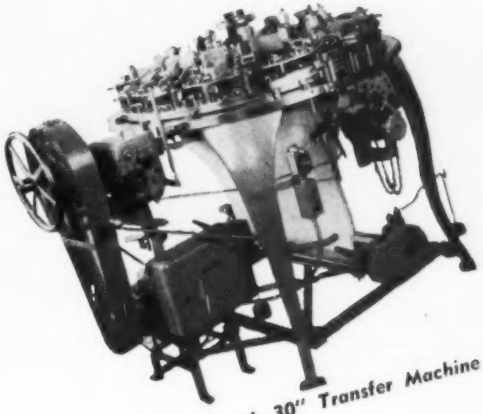


A device for:
1. Simulation of home washers of agitator type on a laboratory scale.
2. Evolution of Detergency.
3. Fastness of colors to laundering.
4. Redeposition of Soil.

Write for literature and prices

UNITED STATES TESTING COMPANY INC.
1415 Park Ave.
Hoboken, New Jersey





New 12 feed, 30" Transfer Machine

a Softer Fabric

The big Outer Dial on Leighton Machines knits soft spun yarns with less end breakage.

Leighton handles all classes of outerwear fabrics with ease—because of the famous Leighton "outer dial."

Leighton operates horizontal needles from the *outer dial toward the center.* This reduces yarn strain. Leighton stitches pass down over the *exterior* of the cylinder. The *face* of the fabric is in full view—an advantage on plaited fabrics.

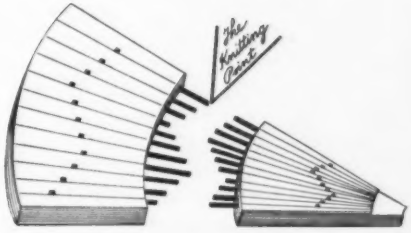
See the butts of the Leighton needles . . . wider apart than the gauge. Yarn is taken into the machine with a minimum of strain.

Leighton eliminates sharp bends—you knit soft spun yarns with less end breakage.

Each needle nearly completes its stitch before the next one starts. The Leighton *diverging* needles give the yarn more room—and allow the use of heavy or fine yarns on the same gauge machine.

TODAY—it's flexibility in knitting you want—which means Leighton.

- **Less Yarn Strain**
- **Freer Cam Action**
- **Less Wear on Cams**



The butts of the Leighton needles (left) are wider apart than the gauge.

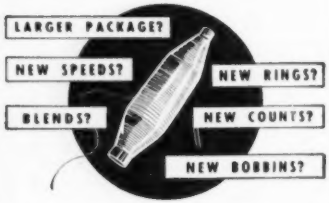
LEIGHTON MACHINE COMPANY
ESTABLISHED—1873

LEIGHTON

MANCHESTER NEW HAMPSHIRE
INCORPORATED—1894

U. S. RING TRAVELERS

What YARN changes are you making?



What TRAVELER changes will they require?

Wherever you feel a change in travelers would benefit, let U. S. men make suggestions and furnish test samples.

Prompt shipments from stock at Greenville, Providence

"A Style and Size for Every Textile Fibre!"

U. S. RING TRAVELER CO.
HOME OFFICE & FACTORY PROVIDENCE, R. I.
SOUTHERN OFFICE & WAREHOUSE, GREENVILLE, S. C.

Write, wire or phone nearest office.

W. P. Vaughan, W. H. Rose
Greenville, S. C.—Box 1048—Phone 3-0915

O. B. Land
Athens, Ga.—Box 1187—Phone 478

L. H. Mellor, Jr.
Mid-Atlantic States, 123 Treaty Rd.
Drexel Hill, Pa.—Phone Hilltop 6-1563

H. R. Fisher
Concord, N. C.—Box 83—Phone 8366

H. J. Smith
Providence—Box 1187—Gaspee 1-0100

the Rollpin expands and locks in place until deliberately removed by hammer and punch. It can be reused almost indefinitely.

According to the manufacturer, the Rollpin is equal in shear strength to cold-rolled pins of the same diameter, vastly superior to a cotter pin. The Rollpin reportedly can't fatigue out even under the most severe working conditions.

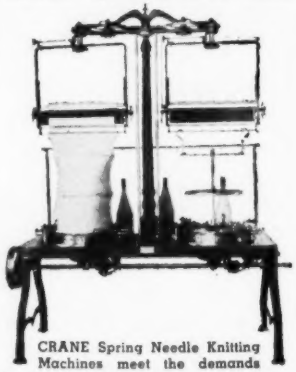
Too High Humidity Controlled Automatically

Mold, rust, mildew, dripping pipes, wet walls, dampness of product during manufacture, and warping can be prevented or cured through the use of a new dehumidifier brought out by Abbeon Supply Co., 179-15 Jamaica Ave., Jamaica, N. Y., the company reports.

The new Model WA-5 dehumidifier can be supplied in three ways: (1) for continuous or intermittent operation without automatic 110-v. a.c. control, (2) for separate "plug-in" control (all that is necessary for automatic operation is to plug the unit into the control, plug the control into the nearest electric outlet, and set the dial of the control at the percentage of humidity desired), and (3) for control built right into the front of the unit as a permanent part of the unit (in this case it is just necessary to plug the unit itself into the wall socket and set the control for automatic operation).

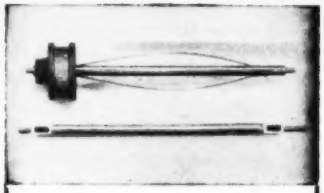
A further feature of the unit is an optional moisture-collecting fixture in

1870 CRANE 1952
SPRING NEEDLE KNITTING MACHINES
Speed - Quality - Low Cost



CRANE Spring Needle Knitting Machines meet the demands of rapidly changing patterns and styles on all weights of fabrics.

CRANE
MANUFACTURING CO.
LAKEPORT, N. H.



Renewable Tips Give You New Top Bobbin Spindles for No. 90 Machines

Wayne Spindles, with patented, renewable, tool-steel tips cost little more than solid end spindles. Worn tips can be quickly replaced for a few cents, and spindles are then good as new. Send for sample—see how to save time and money.

WAYNE Mfg. Co.
HONESDALE, PA.

One for every place— one place to get them all

PROBLEM—In every industry, designers and production engineers are constantly confronted with the problem of combating friction. Every turning part of machinery presents problems of speeds and loads—sometimes radial, sometimes thrust loads—usually both.

SOLUTION—Depend on SKF ball and roller bearings and pillow blocks to combat wasteful friction. SKF engineers can help you put the right bearing in the right place.

RESULT—Your equipment will improve in performance. SKF's wide range of bearing types and sizes, plus engineering know-how, makes it possible to select that type with those characteristics which make it the best choice for your particular application.

Write, **SKF INDUSTRIES, INC.,** PHILADELPHIA 32, PA.—*manufacturers of* **SKF** *and* HESS-BRIGHT *bearings.* 7343

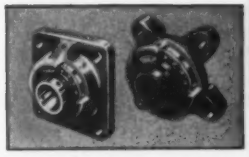
SKF®
BEARINGS AND PILLOW BLOCKS

—or contact your authorized SKF Distributor to help you put the right bearing in the right place.

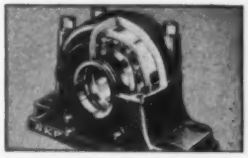
SERIES SAF—Ball or roller bearing pillow blocks, with Triple-Seal rings which keep dirt out, lubricant in. Wide range of load-carrying capacities.

SERIES SES and SY—Unit ball bearing pillow blocks. The SES is mounted in rubber, prevents transmission of noise. The SY permits liberal misalignment—is effectively sealed by famous SKF Red Seal.

SERIES SUS and SUA—Unit ball bearing pillow blocks (SUAR equipped with spherical roller bearings). Ring seals exclude dirt. The SUA is an adapter-type mounting.



SERIES FUS and FUA—Ball bearing flanged unit having same features as SUS and SUA pillow blocks. (FUAR equipped with spherical roller bearings).



SERIES SDAF—Exceptionally sturdy construction for unusual shock and heavy thrust loads. Equipped with Triple-Seal rings for bearing protection.

AT YOUR SERVICE

SPECIALIZED ENGINEERING

SPECIALIZED EXPERIENCE

SPECIALIZED MACHINERY FOR TWISTING BUNCHING STRANDING FORMING AND LAYING IN THE TEXTILE • WIRE CORDAGE AND MANY OTHER INDUSTRIES

WRITE TODAY. YOUR INQUIRY WILL GET PROMPT ATTENTION

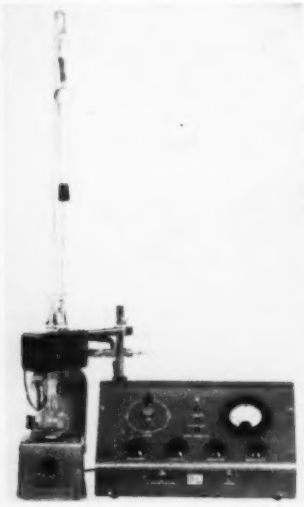
HASKELL-DAWES MACHINE CO., INC.

2231 E. ONTARIO ST.
PHILADELPHIA 34
PA.

the bottom of the unit for attaching a length of hose or pipe, which can in turn then be led to the nearest drain.

The principle of operation of the unit is the same as that of an electric refrigerator. Moisture-soaked room air is drawn in by a fan located inside the top of the unit. The air then passes over cold coils where it is deposited in much the same manner as beads of moisture drip down the outside of a pitcher of cold water on a hot day.

The new dehumidifier has a height of 29½ in., a diameter of 13x13 in., and a weight of 86 lb. It will take care of approximately 13,500 cu. ft. of air in an average enclosed area.



Water Content of Products Measured Automatically

The accurate determination of the water content of products has been developed by means of an instrument manufactured by Beckman Instruments, Inc., South Pasadena, Calif. The Beckman "Aquameter" permits such determinations to be made with maximum convenience, accuracy, and simplicity— and completely automatically.

The instrument uses a modified Karl Fischer titration technique, without human color-judging, and thus eliminates errors caused by temperature effects, oxidation, and decomposition— such as are introduced by oven-drying procedures. Furthermore, the Aquameter is much faster than distillation techniques and eliminates as well the complicated and expensive equipment required by such methods.

Basically, the instrument consists

QUALITY RICHMOND PRODUCTS

IT'S WHAT IS IN THE DRUM THAT MAKES THE DIFFERENCE

USE

NYLTEX-976

THE THROUGH SOLUTION

which

- CUTS SIZE STRIPING
- HAS MORE LUBRICANT
- PREVENTS STICKING
- KEEPS TROUGH CLEANER
- INHIBITS RUST
- EFFECTIVE UNDER HUMID CONDITIONS

Ask about our new

NEEDLE CLEANER • 461

So. Office - 203 S. Church St., Charlotte, N. C.

RICHMOND OIL, SOAP AND CHEMICAL COMPANY INC.

Export Agents
HOWARD G. GODFREY AND CO., INC.
456 Fourth Ave.
N. Y. 16, N. Y.
Cable Address
Godfreyarn

1041-43 FRANKFORD AVE
PHILADELPHIA 25, PA.

NOBLE COMBS and COMB BALLER

Interchangeable repair parts and units for modernizing, standardizing brush motions, even pressure roll stands.

GEARS

Carefully manufactured gears in stock for combing, gilling and spinning.

JAMES SMITH and Son, Inc.

Manufacturers of Worsted Machinery

982 SOUTHBRIDGE ST.
WORCESTER, MASS.

20,000 c.f.m. at 110 lbs. pressure

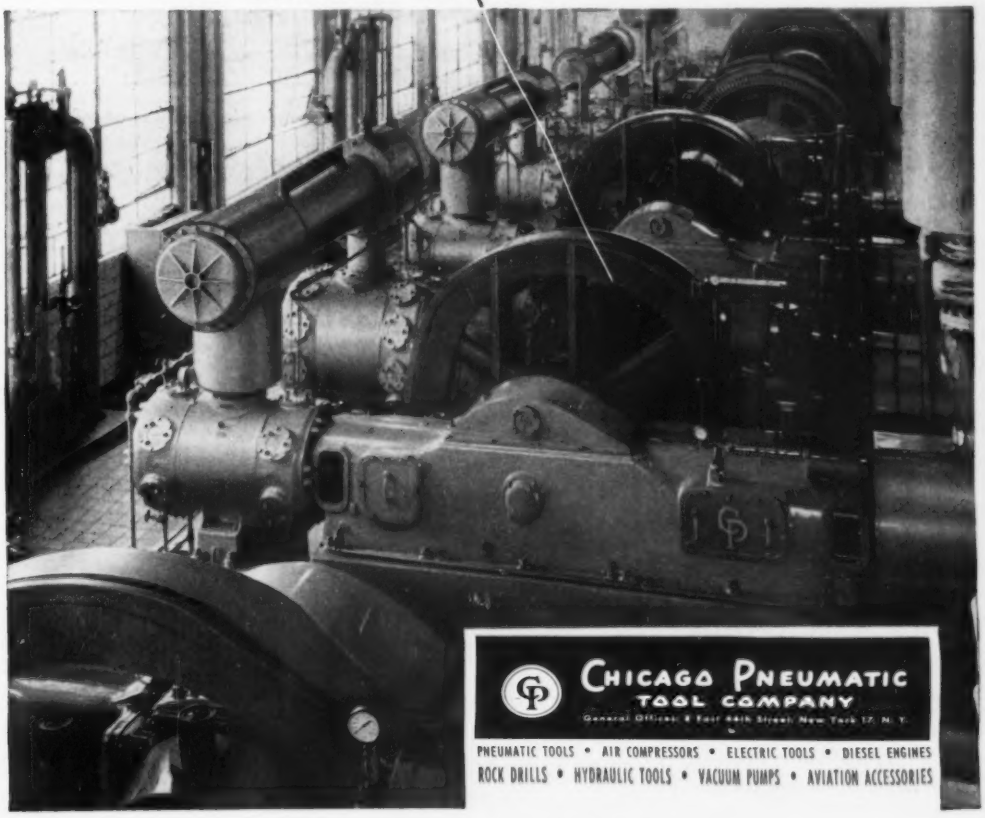
All air requirements of a big automotive plant are met by this battery of five CP horizontal duplex compressors, with a total capacity of 20,000 c.f.m. at 110 lbs. pressure.

The three Type H-DSC steam-driven and two Type O-CE motor-driven units permit a flexibility of operation that assures a dependable supply of air at all times with maximum economy.

Steam-driven compressors are particularly desirable, alone or in combination with electric-driven compressors, where exhaust steam can be utilized for process work or for heating.

CP Fiftieth ANNIVERSARY

Write for complete information



CHICAGO PNEUMATIC TOOL COMPANY

General Offices: 8 East 44th Street, New York 17, N. Y.

PNEUMATIC TOOLS • AIR COMPRESSORS • ELECTRIC TOOLS • DIESEL ENGINES
ROCK DRILLS • HYDRAULIC TOOLS • VACUUM PUMPS • AVIATION ACCESSORIES

NEWEST
Anti-Static Treatment for Synthetics

dextrol
LEKTROSTAT®

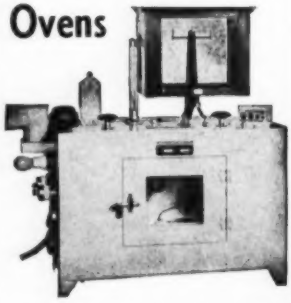
DACRON BOWS TO LEKTROSTAT

Lektrostat B is the first anti-static chemical substantive to Dacron. 2%-3% of Lektrostat B, applied by exhaustion after dyeing, or by padding or spraying, effectively reduces static on Dacron and produces a definite softness—without affecting the color or the lightfastness of the dyestuffs. Samples and data on request.

Give us your problem . . . write

DEXTER CHEMICAL CORP.
TEXTILE CHEMICAL DIVISION
P. O. BOX 1, BLVD. STA. NEW YORK 59

Textile Testing Ovens



For *accurate* testing of water content in yarn. The 8-basket oven, with 3" x 3" baskets, may be changed to 6 baskets, 4¼" x 4¼" both 6" deep. Occupies table space 20" x 40".

EMERSON Ovens

Are built in different types to handle wool, cotton and silk. Baskets are designed specially for each class of work. Write for details on EMERSON OVENS to fit your process.

EMERSON APPARATUS CO.
177 Tremont St., Melrose 76, Mass.

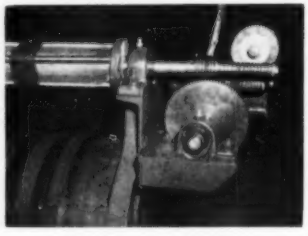
of an electrically controlled titrating unit into which the sample is introduced. A knob on the control unit is then set, and the instrument completes the titration automatically without further attention from the operator. Normally, only one to two minutes are required for a complete determination.

The Aquameter operates on standard 115-v., 50 to 60-cycle, a.c. circuits.

Conveyor Pulls Trucks Up Directly on Own Wheels

A fireproof, all-steel-construction 24-in.-wide conveyor that rapidly conveys trucks with wheels either up or down from floor to floor has been brought out by Wehle Conveyor Co., 201-203 Water St., Binghamton, N. Y.

Built in a two-load capacity, 500 and 1,000 lb., and custom-built in various lengths and widths to meet mill requirements, the conveyor is fast and so eliminates lost time. All bearings are ball bearings. The work chains are steel and detachable. Fingers are welded on.



Lease-String Indicator Warns Beamers With a Light

An indicator, attachable to the head end of beamers, that lights a warning light to beamer operators when a lease string is about to appear, has

EXTENSIVE COMPACTING and TROWELING

makes
Kalman
"ABSORPTION PROCESS"
CONCRETE FLOORS

- **TOUGHER**
- **UNIFORMLY HARDER**
- **LONGER-LASTING**

Kalman has the method, the national organization and 36 years of "know-how" to put down a superior, longer-lasting concrete floor. For heavy duty, low maintenance floors, investigate the Kalman Process.

WRITE FOR FREE BOOKLET
KALMAN FLOOR CO., INC.
110 East 42nd Street, New York 17, N. Y.
Boston · Charlotte · Chicago · Cleveland · Dayton · Detroit
Houston · Los Angeles · Philadelphia · San Francisco

after you've read this magazine

. . . and clipped pertinent ideas, articles and advertisements for reference, *please do not burn or throw it away.*

Here are two sound reasons why:

1) Wastepaper can help to swell the funds of your local Boy Scout Troop, your church or other community organization. It gets a good price these days.

2) Whether in magazine form or not, wastepaper helps to fill the increasing need for paper pulp brought on by the mobilization effort.

Collect it. Give it to your favorite organization. Chances are they have scheduled pickups.

You will Increase
Card Condenser Production
and Jack-Spool Capacity

when you switch to

BULL DOG RUB APRONS

These claims have been proved . . . in mill after mill . . . by actual production records.

Using Bull Dog Rub Aprons, card condenser production increases of 25% and more are commonplace . . . jack-spool capacity increases of 25% to 50% by weight, permitting reduced handling costs and longer runs on spinning equipment, are the rule rather than the exception.

Too, you'll produce firmer, denser roving . . . reduce end breakage.

What's more, Bull Dog Rub Aprons stay clean longer, resist stains and clean easily. They resist oil, surface glazing and hardening . . . retain high surface coefficient of friction.

The patented reinforced end construction features buttons securely anchored with enlarged rivet heads.

Start now to reduce card and condenser maintenance costs, while getting longer machine life . . . switch to Bull Dog Rub Aprons . . . and start counting your increased profits!

Another Quality Product of

BOSTON WOVEN HOSE & RUBBER COMPANY

Warehouse Stock: 111 N. Canal St., Chicago, Illinois **Distributors in all Principal Cities**

PLANT: CAMBRIDGE, MASS. • P. O. BOX 1071, BOSTON 3, MASS., U. S. A.

BWH
DEPENDABLE RUGGEDNESS

Cut costs—stop errors!

Model 43-44

USE AMERICAN SPEED SET GEAR CONSTRUCTION

NUMBERING MACHINES

FOR MARKING TEXTILE MILL TAGS, TICKETS, LABELS, ETC.

Modern textile merchandising demands CLEAR, EASILY READ piece, lot and case numbers, size and yardage lengths, etc. Supply this demand and use the American Speed Set Gear Construction Numbering Machines. Such numbering with Speed Set machines can be done quickly and easily. Numbers change instantly with touch of fingers and ANY COMBINATION OF NUMBERS can be quickly obtained. All steel wheels, deeply engraved figures, self inking.

Case 1764
Style 1235-16
No. 12345
Yards 56⅞ 56⅝

MODEL 42

Eliminate errors and see that your tags, tickets, labels, etc., are attractively and legibly numbered the SPEED SET way.

• WRITE TODAY FOR FOLDER describing these new machines used in Cotton, Woolen, Hosiery, Knit Goods, and Dyeing and Finishing plants.

AMERICAN NUMBERING MACHINE CO.
Atlantic and Shepherd Aves.
BROOKLYN 8, NEW YORK

been patented and made available to mills by Herman T. Pickren of Sylacauga, Ala., and Talladega Foundry & Machine Shops, Talladega, Ala.

The lease-string indicator, developed on the job at Avondale Mills, permits the beamer to be run at higher speeds and reduces beamer down time. It is disengageable for resetting purposes.

Adjustable Floor Polisher Has Ease of Maneuverability

A line of 11- to 19-in.-brush floor-scrubbing and polishing machines is now made with adjustable handles by Hild Floor Machine Co., 740 W. Washington Blvd., Chicago 6, Ill. By the mere setting of a thumbscrew, the handle can be raised or lowered to the operating position that is most comfortable for tall or short operators. This new feature is now standard on all except the company's two smallest models.

With the adjustable handles and a series of easily interchangeable attachments, the machines can scrub, wax, polish, buff, sand, grind, or steel-wool floors of all kinds. The machines can also be used to shampoo tacked-down carpeting without removing it from the floor.

Overhead Cable Conveyor Cuts Handling Costs

An overhead trolley conveyor that combines efficient design for both increased production speed and space saving has been perfected in a mill installation in South Carolina by E.W. Buschman Co., Cilfton and Spring Grove Avenues, Cincinnati 32, Ohio.

The overhead conveyor is of all-bolted construction that makes it easy to change around when necessary. Trolleys are placed on 12 in. centers. Standard wheels can support 80 lb. and double duty wheels can support 160 lb. per trolley. Idler turns and vertical "S" curves are available as needed.

Drive units of 50-, 250-, and 500-lb. pulling capacity are standard. The total load carried can be as much as 30 times the rating of the drive.

At the Oakland plant of Kendall Mills in Newberry, S. C., two 860-ft. picker-lap conveyors and one 690-ft. drawing-lap conveyor system are installed. Increased productive capacity has been obtained in a minimum amount of free floor space.

Questions AND Answers

How To Make Nub and Flake Yarns

Technical Editor:

How are flakes or nubs made and applied to yarn? (9539)

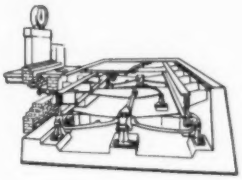
Special twisters or attachments to ordinary cap, ring, or flyer spinning frames are used when two-ply yarns are involved.

A core yarn is delivered by a pair of rollers directly to the spindle at a constant speed, while a novelty yarn is delivered by a separate pair of rollers. Both yarns are fed through a guide bar and yarn guide, and the two yarns are joined at this point.

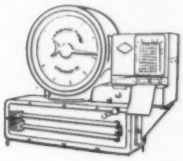
The yarn guide is part of an oscillating arm that moves up and down and is controlled by a rotating cam. There are various designs of this arm and cam, and the particular design depends on the resultant yarn desired.

The downward speed of the oscillating arm is close to the speed of the core yarn; therefore, the novelty yarn is wrapped around the core yarn and forms a nub. During the upward movement of the oscillating arm, the novelty yarn wraps itself around the core yarn in a steep spiral. The delivery speed of both yarns and the shape of the cam result in the size of the nub and the spacing between the nubs.

Nubs can also be made in woolen carding. The nub machine is placed over the last two workers of the second breaker or over the first two of

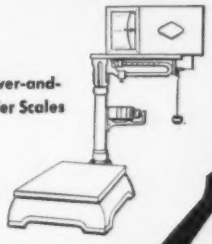


Truck Scales



Printomatic Dial Scales

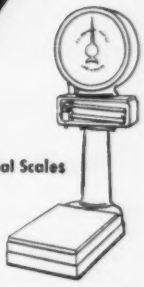
Over-and-Under Scales



Type Registering Beam Scales

Bench Dial Scales

Portable Dial Scales

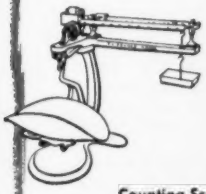


Speeds your weigh!

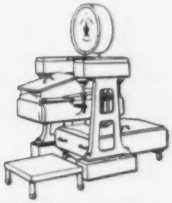
FAIRBANKS-MORSE,

a name worth remembering

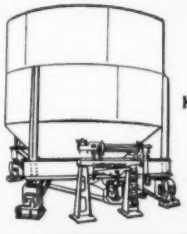
SCALES • DIESEL LOCOMOTIVES AND ENGINES • ELECTRICAL MACHINERY • PUMPS • HOME WATER SERVICE EQUIPMENT • RAIL CARS • FARM MACHINERY • MAGNETOS



Counting Scales

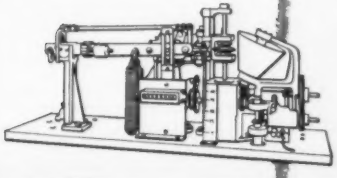


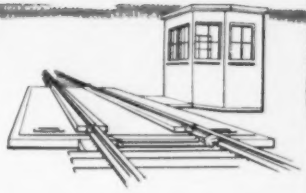
Weigh Can Scales



Hopper Scales

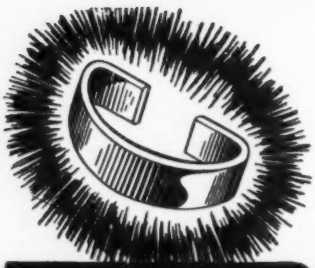
Belt Conveyor Scales





Railroad Track Scales

Fairbanks, Morse & Co., 600 South Michigan Avenue, Chicago 5, Illinois



DARY
Ring Travelers

Meet
Changing Needs!

When you're working out change-over problems, talk with a Dary representative. He'll contribute experience we've acquired in over 50 years of co-operation with mill men.

You'll find there is a Dary Traveler for twisting and spinning any type or count of yarn — cotton, wool, worsted, silk or any synthetic or blend. Let us help you select the right Dary Traveler for the job it was engineered to do right!

Specify DARY Ring Travelers every time.

THE DARY RING TRAVELER CO.
TAUNTON, MASSACHUSETTS
LINDSEY I. PHILLIPS, TREASURER, TAUNTON, MASS.
JOHN E. HUMPHRIES, BOX 843, GREENVILLE, S. C.
JOHN H. O'NEILL, BOX 720, ATLANTA, GA.
JAMES H. CARVER, BOX 22, RUTHERFORDTON, N. C.
CRAWFORD RHYMER, BOX 2261, GREENVILLE, S. C.

Questions and Answers

(Continued)

the finisher, facing the feed. All the workers except one from this point on are raised from their points of contact with the stock to prevent carding out the nubs.

The nub machine can be adjusted to deliver many or few nubs. Sometimes the nubs are mixed in the batch, but this practice has proved unsuccessful because the nubs drop out and are carded out.

Flake yarn is similar to nub yarn in that the flakes or slubs appear at regular intervals. The thick tufts of a slub yarn are made in spinning. In twisting, the slub yarn is generally twisted with a finer yarn that adds strength to the yarn, binds the slubs, and produces fancy effects. The flake yarn is made on the twister by the use of two sets of rolls. Usually there are two fine ground ends. This roving makes a soft tuft, the tuft length of which can be varied.

A flake yarn may be produced on a spinning frame by passing the ground ends between the front rolls only. The roving is fed intermittently through the back and middle rolls by the use of a draft gear with teeth out at intervals around the gear.

Basic Requirements for Quality-Control Laboratory

Technical Editor:

What are the minimum requirements for a good quality-control laboratory for a cotton print cloth or sheeting mill? (9543)

The following testing setup should be adequate for a medium-size mill (30,000 to 50,000 spindles).

Minimum area is 500 sq. ft., and it should be air conditioned. Plenty of wall outlets for 110-v. current should be available, and there should be at least one circuit of 220 v. The lab will also need compressed air at 70 psi.

Minimum equipment would be: a Pressley fiber tester; a precision balance (3-mg. capacity); a Micronaire (fineness tester); a Fibrograph (optional); an Acrolometer (optional); a roving reel (1 yd.); a 1½-yd. yarn reel; a yarn-numbering quadrant; a Model-J skein tester equipped with jaws for breaking cloth; a twist counter with single-yarn attachment; an evenness tester for sliver, roving, and yarn; two grain scales; a lap-meter; a single-end tester (optional); a moisture oven; and an air-conditioning unit of two-ton capacity.

The laboratory will also need a hand tachometer, perhaps a Strobotac, a tensiometer, and a moisture register. Office equipment—such as good calculator, an adding machine, a typewriter, a slide rule, etc.—should be included. An experimental roving frame and spinning frame are desirable. A small chemical bench for simple analysis such as size content should be available. In the nontesting area humidifiers are the only conditioning equipment necessary.

Set Your Looms To Stop Cut Filaments

Technical Editor:

Recently our mill began running 75-den. acetate on K-model Draper looms. The goods are 37 in. wide and have 100 ends per in. The constant hitting of the midget feeler against the yarn at the back end of the bobbin breaks enough filaments to break the filling and cause the loom to stop by the time a bobbin is ready to change. How can we remedy this condition? (9547)

Your problem can be easily eliminated by setting your loom for the fine-denier filling. You should first change your feeler blade and tip from the spring-covered tip to the plastic-covered tip. This loom part can be supplied by your regular loom-parts manufacturer.

Since 75-den. filling usually is woven with less picker-stick power than coarser weaves, the power strap and pick arm should be raised as high as possible.

Box fronts and binders must be set properly to insure a light shuttle-checking condition.

The tension on the parallel spring should be reduced to a minimum.

With the following settings, the checkstraps must be adjusted accurately:

The feeler-blade stroke should be set lightly on the empty quill, and the feeler case should be square with the shuttle front.

The feeler tip must be polished and must be kept free of burrs.

If these instructions are followed, and if the shuttle does not rebound in the shuttle boxes, you should not have any cut filaments in the filling.

No Felting Qualities In Cotton Fibers

Technical Editor:

Am I right in assuming that cotton will not shrink because it has poor felting qualities? If cotton is woven and finished properly, is there any danger of its shrinking afterwards? (9548)

Cotton shrinks by fiber relaxation. In processing and finishing, cotton fabrics or yarns are normally stretched out while wet and are dried in the stretched condition. If they are not

MAKE FINER, TIGHTER *Lace edgings*

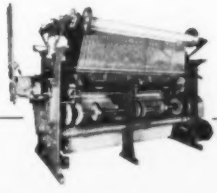
Cut production costs, too. With the *Kidde* Knitter five or six guide bars can be used to produce edgings of a quality much in demand today. Even on six guide bar work, production speeds of *160 courses per minute* or better are being maintained.

That rate of production is *substantially higher* than has ever been reached on this type of machine before—but it's *typical* of the high, *sustained* speeds attainable with the *Kidde* Knitter. Thanks to a new drum drive, a new motion on needle bars these speeds are possible—and the entire machine is designed to withstand them.

See for yourself how the *Kidde* Knitter is adaptable to practically any type of yarn, thread or elastic—how it is set up for simple or intricate patterns quickly and easily. We will be pleased to show you a machine in operation at our plant.

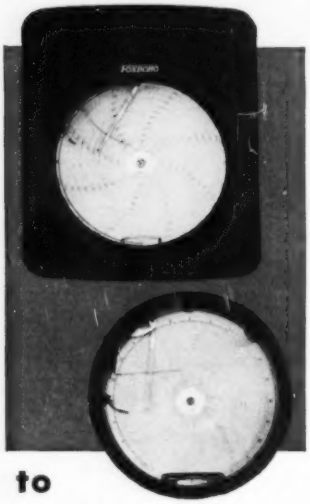
Use the Kidde Knitter to make these fabrics, too

Elastic Fabrics for corsets, girdles, brassieres. Dress Fabrics. Dish Cloth Materials. Curtains. Narrow Fabrics: edgings, braidings, laces. Shoe Cloth. Knitted Outerwear Fabrics for sweaters, polo shirts. Nets and veilings.



KIDDE MANUFACTURING CO., INC., BLOOMFIELD, N. J.

TEMPERATURE RECORDERS



to avoid lost profits

Accurate Foxboro Temperature Recorders give you a minute-by-minute report of process conditions — an invaluable aid in determining future operation. Moreover, the records forecast impending difficulties — permitting corrections to be made before costly trouble starts.

Available with vapor pressure, gas pressure, or liquid expansion type systems. Choice of 50 standard bulbs; 700 chart ranges and scales from —450° to +1000°F. Round or rectangular cases for all operating conditions. Exclusive Foxboro design and construction advantages detailed in Bulletin 447. (Temperature indicators and controllers also available.) **Write The Foxboro Company, 847 Norfolk St., Foxboro, Mass.**

FOXBORO
Reg. U. S. Pat. Off.
TEMPERATURE RECORDERS

Questions and Answers

(Continued)

finished wet, they are stretched while in the loom. As soon as these stretched fibers are wet thoroughly, they rearrange themselves into a position of less strain or distortion from their original state. This is known as relaxation shrinkage.

Relaxation shrinkage is really what takes place in a Sanforized fabric. The fabric is wet and then dried while compressed into a smaller bulk. The resulting fabric has all the strains removed. By this process, fabrics can be made to have less than 0.5% residual shrinkage. This process is the most satisfactory method for obtaining dimensional stability and is useable on cotton only; wool and rayons cannot use the process.

Cotton does not have felting qualities, and, therefore, does not shrink by felting.

Moire Effect on Gray Goods Usually Caused in Finishing

Technical Editor:

Can a moiré effect be developed on gray goods? Our dyer claims the fault was present before he got the fabric.

The fabric is an acetate taffeta of the following construction: warp, 75 den., 180 ends per in.; filling, 300 den., 54 picks per in. (9551)

It is possible for a moiré effect to be created on fabrics such as you describe. The distortion of the warp and filling can be caused by too much tension on inspection machines or by improper winding. Rough handling of the goods that causes excessive rubbing of the folds will also produce a moiré effect.

All of these conditions can exist prior to receipt of the goods by the finisher or in his own inspecting and winding operations. Care should be exercised when you put goods on tubes or shells so that too much tenson is not employed and too tight a roll is not made.

In the boiling-off operations, care must again be exercised that excessive tension is not applied on the roll. Goods, of course, should not stand around wet on shells or tubes for too long a period before drying. Uneven drying out of rolls left standing wet can create moiré. Rolls should not be dropped or otherwise receive rough treatment.

Although moiré can be produced on gray goods, it is true that this condition usually is created when the goods have been wet out and are going through the boiling-off, dyeing, or finishing processes. The shifting of the threads that create the moire condition takes place more easily on wet goods than on dry. The lower the count of taffetas, the easier it is to distort the thread arrangement.

If it is suspected that moire exists prior to boiling off, gray goods should be examined for this condition. Once the threads are distorted, it is almost impossible to eliminate the moiré effect.

Try These Ring-Rail Speeds For Best Spooler Results

Technical Editor:

On cotton warp yarns that are to be spooled at 1,300 rpm. on Barber-Colman spoolers, is it better to spin the yarns with the spinning-frame ring rail traveling up fast and down slow or up slow and down fast? (9554)

There is a difference of opinion among cotton spinners as to the relative up-and-down speeds of the spinning-frame ring bail for the best results in spooling and winding.

In one series of tests, it was found that the best results on Barber-Colman spoolers and other types of winding were obtained with a rail speed of about three to one. The rail speed going up was 35 sec. per traverse, and going down the speed was 105 sec.

The spinning frames tested were equipped with 1¾-in. and 2-in. rings with an 8¼-in. lift. A combination wind was used on the frames because this wind gave the best results in spooling and winding.

Combine Basic Methods For Best Hosiery Seaming

Technical Editor:

Which of these methods of seaming full-fashioned hosiery is the better?

1. **Operator sits facing the machine table straight on, and the machine is set squarely on the table. The operator passes work straight from right to left, in a line parallel to the front edge of the machine table.**
2. **Operator sits at an angle to the machine table, and the machine is also set at an angle on the table so that the operator feeds the stockings almost directly away from her into the machine. She "drives" the stocking, as it were, into the machine. (9546)**

Method No. 2 is the better of the two—provided the operator doesn't "drive" the stocking from toe to welt. The first method accents quality, but the second will give the highest production.

After many years of experience we have found that a machine should be at a 30° angle on the table, and the operator should sit at a 20° opposite angle. The operator's body

Hot Coffee

for Textile Workers Near Their Work

AERVOID *Vacuum Insulated*
PORTABLE HOT COFFEE DISPENSING CARRIERS

Management is finding that with the older workers, women workers, less experienced workers it is now necessary to employ, a mid-shift cup of hot coffee serviced to workers at their work is a welcome pick-up and refresher that workers appreciate.

Hundreds of large industrial plants have adopted the practice of servicing workers a mid-shift cup of hot coffee at their work by means of AerVoiD High Vacuum Insulated Hot Coffee Carriers.

They find that the saving in time as compared to having workers running around the plant quickly pays for the AerVoiDs.

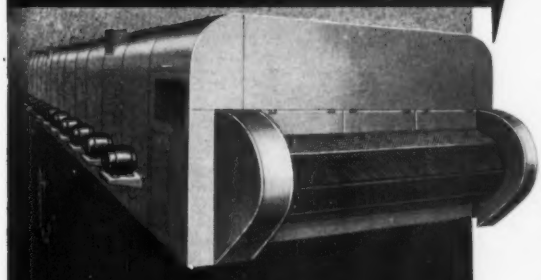
Hot coffee can be prepared on the premises if you have the facilities, or supplied by some restaurant or caterer, and picked up by your company trucks.

The AerVoiDs will keep coffee hot for hours while awaiting service with the coffee dispensed direct from the Carriers, the fastest, most sanitary way to service coffee in an industrial plant.

Also AerVoiD hot food and soup carriers, AerVoiD bulk milk carriers, the AerVoiD mobile canteen to expedite factory feeding. Ask for Factory Envelope TW-10.

VACUUM CAN COMPANY
25 SOUTH HOYNE AVENUE • CHICAGO 12, ILLINOIS

SARGENT'S STOCK DRYER



LARGEST MANUFACTURERS OF STOCK DRYING AND WOOL WASHING EQUIPMENT IN AMERICA

C. G. SARGENT'S SONS CORPORATION
Graniteville, Massachusetts, U.S.A.

★

for Drying Wool, Cotton, Rayon, Other Synthetic Fibres, Rags

Modern . . . Automatic

SARGENT'S modern, fully automatic Stock Dryer is vibration-free. Streamlined, it requires unusually small floor space, yet affords maximum drying surface area and high-volume production.

Features include highly efficient heating coils; low steam consumption; thermostatic controls; heavy, insulated hinged panels for easy inspection of work in travel; ease of cleaning; variable-speed covered chain Conveyor drive; minimum maintenance cost. The smooth-surfaced Conveyor of heavy-gauge steel sectional flights is built to specifications for your type of work.

Please write us for complete details

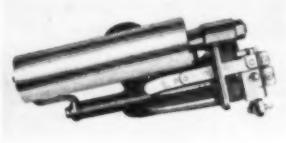
SINCE 1852

The new, Fisher Type Rotary Feed which has replaced the conventional spiked Apron Type Feeder

MECHO
AIR GUIDER

The MECHO Air Guider is simplicity itself. There are no weights, levers or linkages to bother with. Seams present no difficulty whatsoever. The MECHO has been so carefully and simply designed that all parts are changeable. You need never experience difficulty again with double edges, spattering or costly shutdowns for repairs.

The intial cost of the MECHO is extremely low. Maintenance is practically nil. The MECHO can be adjusted to handle from the lightest weight fabrics to Number 8 duck—and even while in operation.



SPECIAL MODELS

We also offer our Model AR-45 and AR-45 SPECIAL for conditions calling for resistance to acids, acid fumes and moisture. In both models, the guider head, cross screw and floor stand uprights are made from 18-8 stainless steel. In the AR-45 Model, the rolls are sealed on one end only with neoprene seals. For more severe conditions we recommend Model AR-45 Special, the rolls of which are sealed with special Crane seals.

THE GUIDER SPECIALTY CO.
425 WEST ROCK AVENUE
NEW HAVEN CONN.

SOUTHERN REPRESENTATIVE
McPADDEN & SCANTLAND
614 JOHNSTON BLDG.
CHARLOTTE, N. C.

Name .....
Title .....
Company .....
Street .....
City ..... State .....

should center the right side of the machine for best work with the least fatigue.

Better quality does not result from

(Continued on page 272)

"Leg-Hug" Nylon Hose

(Continued from page 95)

should be knitted over an oily felt, and it will be necessary to install three oil bottles for the yarn to pass over the wicks.

In using the three-carrier system, it is necessary to use one end of 40-turn Z twist and two ends of 40-turn S twist, or vice versa (one end of 40-turn S and two ends of 40-turn Z) to neutralize the twist and make the stocking lie flat after it is finished.

Two-carrier knitting gives a better selvage than three-carrier, and only two oil jars are used for the yarn to pass over. One cone of yarn has **Z** twist and the other cone **S** twist. The main three-carrier friction on the Reading machine can be used for the two-carrier knitting, provided you re-cut the cams as shown in the accompanying drawings.

Regardless of whether you knit 40-turn nylon two carrier or three carrier, you will naturally get a "washboard" effect. This effect is due to the use of alternating courses of right and left twist, and the different directions of twist in the yarn cause a difference in the light-refraction powers, which gives the washboard effect.

The three-carrier-knitted stocking has a more noticeable washboard effect than a two-carrier-knitted stocking, when the stocking is not on the leg. However, when the stocking is being worn, the reverse condition is true: The washboard effect is more noticeable in a two-carrier than in a three-carrier-knitted stocking.

Most hosiery buyers have considered the washboard effect a good thing because it does definitely denote whether a stocking is knitted from 40-turn yarn or not.

More Courses Needed

To get an over-all finished length that compares with a 10- or 20-turn 15-den. yarn knitted in the same construction on a 60-gauge machine, the 40-turn stocking will have to end up with about 50 more courses in the over-all length.

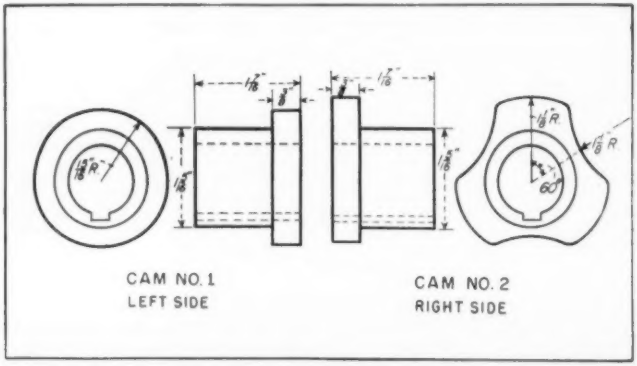
This necessity is due to the fact that the 40-turn yarn has a greater coefficient of friction and, consequently, does not pass quite so easily through the various guides, needles, etc., of the machine. Because of this friction, the high-twist yarn has to be tugged more, which results in a slightly tighter and smaller loop formation. Therefore, a greater number of courses is required to obtain the same desired length.

Snag Resistance Is Up

The following test shows the comparative snag resistance of the 40-turn 15-den. stocking and the 10-turn 15-den., both knitted on a 60-gauge machine, 50 courses per inch in the grav.

Finished stockings were washed to remove any temporary water-soluble finish used for boxed-appearance purposes. The test consisted of pulling marked areas of the stockings over a ½-in. dowel stick covered with Single-0 sandpaper. Under standard conditions, the stockings were hand-washed to remove abrasion marks, the snags were counted, and the snags per square inch of fabrics were calculated.

The stockings made of 10-tpi. yarn averaged 1.27 snags per sq. in. Those made of 40-tpi. yarn averaged 1.00 snags per sq. in.



TWO-CARRIER KNITTING on the Reading 60-gauge machine can be done with the main three-carrier friction if you re-cut the cams to the dimensions and shapes shown here.

OVER 150 Years OF COMBINED OVEN ENGINEERING EXPERIENCE

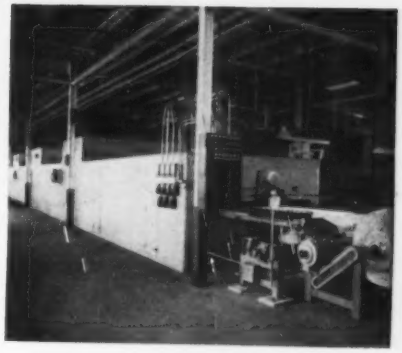
TEXTILE DRYERS DESIGNED TO FIT THE JOB

•

When you have a textile drying problem, take advantage of our engineering staff's long and specialized experience in the designing of ovens for leaders in the textile industry throughout the nution. If you will tell us your requirements, we shall be pleased to give you our recommendations.

Write for Brochure: "Your Oven Problems"

QUICK SERVICE



Discharge end of single compartment three-zone continuous tenter for fabric up to 60" wide

MICHIGAN OVEN COMPANY
423 Brainard St. Detroit 1, Mich.
Southern Office: 405 North 23rd St., Birmingham, Ala.

WORLD-FAMOUS

SCHLUMBERGER COMB

for French-Type Worsted Mills

OUTSTANDING for ready accessibility of all operating parts (including cylindrical comb) and for remarkable cleanliness of product. Settings made quickly.

Also other worsted preparatory machinery

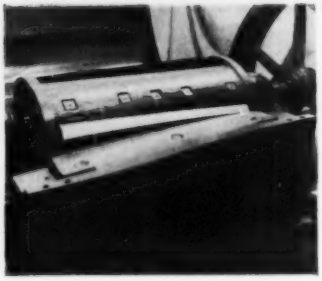
U. S. Representative: TEX PLANT CORP., 65 Bedford St., Stamford, Conn.

N. SCHLUMBERGER & CIE
GUEBWILLER, ALSACE, FRANCE
Founded 1808

For better cutting

SHEAR

your yarns and fibers



Taylor-Stiles Staple and Thread Waste Cutters

are so designed that the edges of the fly knives engage the bed knife with a shearing action, as shown in the picture.

This shearing cut is obtainable in Taylor-Stiles cutters only. It is one of many distinctive features—an important one—that have given Taylor-Stiles staple, thread waste, fiber, and other textile cutters, the outstanding reputation they enjoy with America's leading textile mills.

●

Write for descriptive folder illustrating Taylor-Stiles cutters for the Textile Industry.

TAYLOR-STILES and company
CUTTING MACHINES & KNIVES

15 Bridge Street, Riegelsville, New Jersey

News OF THE MONTH

Fabric Performance—Not Fiber Identification. Emphasis on fiber identification rather than textile performance has resulted in an appalling amount of misinformation about the newer fibers, C. W. Bendigo of the new-product-development department of American Cyanamid Co., and former editor-in-chief of TEXTILE WORLD, recently told the Textile Salesmen's Assn. in a meeting in New York. Much of the promotion on "100% content" today is misleading, he said, because virtually all apparel fabrics made from staple can be improved by the introduction of a blend of one or more synthetic fibers.

"There are so many different synthetic fibers available today that even textile technicians are confused as to which fibers should be used to achieve a desired fabric," Mr. Bendigo said. "How then can a consumer decide what performance he can expect if he tries to choose a fabric based on fiber content? Confusion is compounded if he doesn't realize that the same fiber may be found in three distinct forms; for example, nylon staple, nylon multifilament, and nylon monofilament. Properties attributable to one form are not necessarily attributable to another."

The newer synthetic fibers are important not because they will perform miracles but because they permit "more serviceable" types of fabrics than have been possible heretofore.

LTI Foundation Studies. The safety and damage factors involved in the use of military personnel and equipment parachutes are being studied closely by the Lowell Textile Institute Research Foundation, it was made known at the second annual meeting of the Foundation in May at Lowell, Mass. Lubricating agents built into the canopy fabric and impregnated in the shroud lines, as well as smoother braided surfaces on the exterior of the lines, will greatly diminish the risk potential in individual or mass para-

Textile Calendar

Gordon Research Conferences, Colby Junior College, New London, N. H., June 16 to Aug. 29, 1952.

American Oil Chemists Soc., short course in soaps and detergents, Rutgers Univ., New Brunswick, N. J., July 6 to 11, 1952.

Southern Industrial Relations Conference, 33rd annual session, Blue Ridge, N. C., July 16 to 19, 1952.

New York Univ. School of Retailing, seminar in fabric analysis, New York, July 21 to Aug. 8, 1952.

American Society for Quality Control, textile quality-control conference, Clemson College, Clemson, S. C., Aug. 22 and 23, 1952.

7th National Chemical Exposition, Coliseum, Chicago, Ill., Sept. 9 to 13, 1952.

AATT, monthly meeting, Builders Club, New York, Sept. 10, 1952.

Fiber Society, fall meeting, Princeton, N. J., Sept. 10 and 11, 1952.

AATCC, Piedmont Sect., Hotel Charlotte, Charlotte, N. C., Sept. 12 and 13, 1952.

AATCC, Southeastern Sect., Atlanta, Ga., Sept. 13, 1952.

Third Canadian Textile Seminar, Queen's University, Kingston, Ont., Sept. 11 to 13, 1952.

AATCC, council meeting, New York, Sept. 19, 1952.

AATCC, general research committee meeting, New York, Sept. 19, 1952.

NACM, annual meeting, Portsmouth, N. H., Sept. 25 and 26, 1952.

Maintenance Engineers' School, course on evaporative cooling and refrigeration, Robert E. Lee Hotel, Winston-Salem, N. C., Sept. 29 to Oct. 10, 1952.

AATT, monthly meeting, Builders Club, New York, Oct. 1, 1952.

AATCC, Western New Eng. Sect., Rapp's Restaurant, Shelton, Conn., Oct. 3, 1952.

17th Southern Textile Exposition, Textile Hall, Greenville, S. C., Oct. 6 to 11, 1952.

AATCC, Pacific Southwest Sect., Ojai Country Club, Ojai, Calif., Oct. 6, 1952.

Beltwide Cotton Mechanization Conference, San Joaquin Valley, Calif., Oct. 22 to 24, 1952.

AATT, monthly meeting, Builders Club, New York, Nov. 5, 1952.

AATCC, national convention and dyeing and finishing exposition, Hotel Statler, Boston, Mass., Nov. 6 to 8, 1952.

AATCC, council meeting, Boston, Mass., Nov. 6, 1952.

AATCC, general research committee meeting, Boston, Mass., Nov. 6, 1952.

AATCC, Western New Eng. Sect., Rapp's Restaurant, Shelton, Conn., Nov. 3, 1952.

AATT, monthly meeting, Builders Club, New York, Dec. 3, 1952.

AATCC, Northern New Eng. Sect., annual meeting, LTI, Lowell, Mass., Dec. 6, 1952.

AATCC, Western New Eng. Sect., Rapp's Restaurant, Shelton, Conn., Dec. 12, 1952.

1953

22nd AMA National Packaging Exposition, Navy Pier, Chicago, Ill., April 20 to 24, 1953.

Natl. Assn., of Hosiery Mfrs., annual convention and conference, Claridge Hotel, Atlantic City, N. J., April 27 and 28, 1953.

Knitting Arts Exhibition, Atlantic City Auditorium, Atlantic City, N. J., April 27 to May 1, 1953.

Materials Handling Exposition, Convention Hall, Philadelphia, Pa., May 18 to 22, 1953.

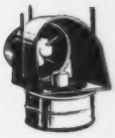
AATCC, national convention, Stevens Hotel, Chicago, Ill., Sept. 17 to 19, 1953.

1954

Knitting and Allied Crafts Exposition, Grand Central Palace, New York, April, 1954.

American Textile Machinery Exhibition, sponsored by American Textile Machinery Association, Atlantic City Auditorium, Atlantic City, N. J., April 26 to May 1, 1954.

STOP
Slime and Scale
in Your Humidifiers



TO make equipment last longer, work better—keep your humidifiers free of slime and scale with Oakite Airefiner No. 52. Average solution of 2 lbs. per 500 gallons of water keeps system clean, sweet-smelling . . . keeps lines and atomizers free of clogging deposits.

Try it in your system. Ask your Oakite Technical Service Representative. Or write Oakite Products, Inc., 42 Rector St., N. Y. 6, N. Y.

SPECIALIZED INDUSTRIAL CLEANING

OAKITE

MATERIALS • METHODS • SERVICE

Technical Service Representatives in Principal Cities of U. S. & Canada

---

PAGE FENCE *Since 1883*

• AMERICA'S FIRST WIRE FENCE •

Sabotage is a danger which calls for vigilance day and night. Property line vigilance is the job for Page Chain Link Fence, now as it has been for more than 60 years. Consult the nearby, long-experienced Page Fence engineering and erecting firm, which will submit cost estimates without obligation. Name and address will be sent with illustrated fence data on request.

***Write** to PAGE FENCE ASSOCIATION in Manassas, Pa., Atlanta, Bridgeport, Chicago, Denver, Detroit, Los Angeles, Philadelphia, New York or San Francisco.*

PRODUCT OF PAGE STEEL & WIRE DIVISION OF AMERICAN CHAIN & CABLE COMPANY, INC.

Cuts maintenance Costs 4ways

Based on the experience of more than 9600 industrial plants, improved DAMP-TEX proves less expensive in actual usage. Shutdowns to dry out wet walls and equipment are reduced or eliminated. Greater coverage, superior hiding qualities and resistance to moisture, steam, 2% caustic, corrosive acids, gases and other industrial conditions, assures longer life. DAMP-TEX adheres to any paintable interior wet or dry surface—dries to a beautiful porcelain-like finish. Will not taint foods.

Write for descriptive folder AA

FUNGUS TEST

STEAM TEST

ACID TEST

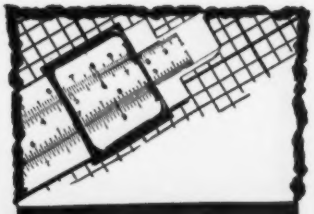
DAMP-TEX
WET
OR DRY SURFACE ENAMEL

NEW **STAINLESS STEEL COATING**

For equipment and metal surfaces subjected to extreme acid and alkali conditions. Brush or spray costs less than 4¢ sq. ft. Write for information.

STEELCOTE MFG. CO. • ST. LOUIS 3, MO.

Canadian Manufacturer
STANDARD PAINT & VARNISH CO., WINDSOR, CANADA
Canadian Industrial Distributor
G. H. WOOD & CO., LTD., TORONTO



FOR BETTER
SPEED CONTROL
USE
Servospeed

MODERN
ELECTRONIC
ENGINEERING
GIVES
PRECISE

FINGERTIP
SPEED CONTROL

- TACHOMETER PROPORTIONING
- TENSION OR POSITION CONTROL
- MOTOR INTEGRATORS
- BI-DIRECTIONAL
- DYNAMIC BRAKING
- SERVO CONTROL

Servo-Tek
products co.
4 Godwin Ave. Paterson, N. J.

NEWS *of the Month*

(Continued)

W. F. WILLIAMSON (left) was elected president of the National Assn. of Hosiery Mfrs. recently, succeeding the late Earl Constantine, who was chief executive of the group for 20 years prior to his death last January. Mr. Williamson was formerly executive vice president of the National Coffee Assn. HENRY A. LINEBERGER (center), secretary-treasurer of Knit Products Corp., Belmont, N. C., was elected chairman of the hosiery group for the coming year, succeeding Samuel F. Rubin. MATTHEW C. KURTZ, former hosiery editor of "Women's Wear Daily," was elected assistant secretary of the association.

chute drops, Foundation officials believe.

The trouble up to now has been this: Friction of the shroud lines against the canopy of the parachute as it begins to open in mid-air and at high velocity, especially when strong lateral winds are encountered, is likely to burn a hole in the canopy fabric and thus dangerously accelerate the rate of descent. With jet-propelled planes, extreme altitudes, and supersonic speeds, the canopy fabric must be of great strength and yet of sufficient porosity to allow air to escape through the canopy to give a cushioning effect so that instruments or materials are prevented from becoming damaged by a too sudden deceleration or from tearing completely away from the parachute.

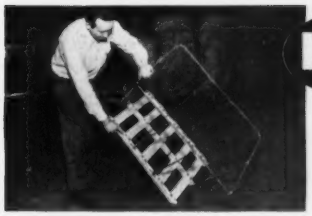
International Textile Standards Discussed. American interest in international textile-standardization work is high, and participation is unusually heavy, said W. D. Appel of the Natl. Bureau of Standards and chairman of one of the textile committees of the American Standards Assn., at the conclave of international standardization experts from eleven countries held last month in New York. The meetings were held at Columbia University in conjunction with the second triennial general assembly of the 33-nation International Organization for Standardization (ISO).

ASA is the secretariat of the two technical subcommittees that met in New York—those on yarn testing and laundry shrinkage. Represented at the sessions were the ACMI, AATCC, ASTM, AATT, the National Institute of Cleaning and Dyeing, National Council of Textile School Deans, Rayon Yarn Producers Group, and the National Bureau of Standards.

The British Standards Institution, which holds the secretariat for Technical Committee 38, announced that the committee's seven subcommittees are making good progress on tests for tensile strength of fabrics, shrinkage, measurement of cloth, terms and definitions, moisture in textiles, fiber testing, yarn testing, colorfastness testing, and other standardization projects in the textile field. Proposals for standardization will eventually be submitted to the ISO membership for approval as ISO recommendations.

Fabric Designers Must Be Versatile. It takes a textile engineer, well-versed in the ways of science, mechanics, business, and inspiration, to design the advanced fabric of today and tomorrow, said Graeme Whytlaw of the Textile Research Department of American Viscose Corp. at the recent Textile Institute conference in Edinburgh, Scotland. The designer of tomorrow's fabrics will be expected to build from the ground up—that is, from fiber to cloth. This method, he said, is gradually superseding the old practice of manufacturing the cloth first and then appraising it.

To make use of the limitless possibilities offered by the new fibers in the fabric field, a designer now has to know what takes place during manufacturing, what the physical limitations of various machines are, what types of things adversely affect a mill's efficiency, and what's what in the labor-relations field. All these must



LANE baskets are MATERIALLY better

- Over-size casters for easy running of any load
- Full capacity bodies
- Hardwood bottoms—dual riveted—stronger than steel
- Heavy duck sleeves for holding body to frames
- **Rounded bottom rivets for smooth surfaces**
- Self-embedded rivets in duck prevent sharp cutting edges

Rounded bottom rivets (not flattened rivets) provide smooth surfaces to prevent any possible cutting of the canvas duck body. At Lane this is a precision machine operation that always produces smooth well turned rivet heads. This is just one of many small details that make Lane baskets so much better.

But Lane does not stop there. All cross boards *dual-riveted* to shoes and are bevelled to eliminate rough surfaces—no burrs, such as those generally found on steel bottoms.

Investigate Lane baskets, hampers and trucks today and see for yourself why Lane is the standard of quality.

WRITE for bulletin.

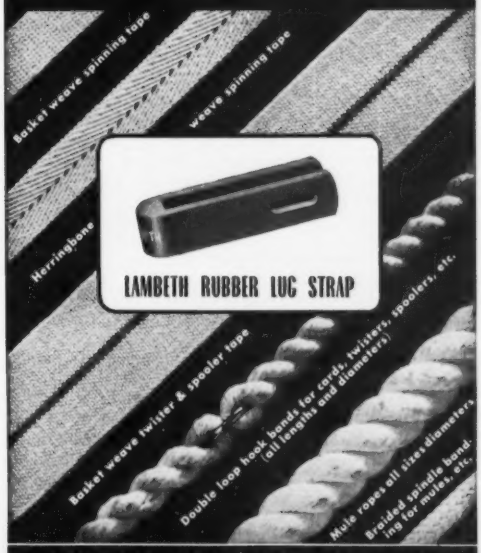
TRADE MARK

Lane

THE LANE BASKET

W. T. LANE & BROS., INC. Poughkeepsie, New York

LAMBETH PRODUCTS
FOR SPINNING, TWISTING, SPOOLING, WEAVING


Basket weave spinning tape
weave spinning tape
Herringbone
LAMBETH RUBBER LUG STRAP
Basket weave twister & spooler tape
Double loop hook bands (for cords, twisters, spoolers, etc. (all lengths and diameters)
Mule ropes all sizes diameters
Braided spindle bands (for mules, etc.

LAMBETH ROPE CORPORATION

Plants at New Bedford, Mass. and Kings Mountain, N. C.

YOU CAN RELY ON PERMUTIT EQUIPMENT

Permutit Water Softeners provide automatic quality control—assuring a constant supply of completely softened water. Automatic operation completely removes the human element from regeneration, saves costly man-hours of labor and maintenance.

New automatic valves and controls are easily installed on old equipment—converting it to fully automatic operation. To meet increased water demands, replace your present mineral with one of Permutit's new, high-capacity zeolites which will increase both gallonage capacity and flow rates of your present water softening plant.

Profit from Permutit's 40 years of laboratory research and field experience. Write to The Permutit Company, Dept. TW-7, 330 West 42nd Street, New York 36, N. Y., or to Permutit Company of Canada, Ltd., 6975 Jeanne Mance Street, Montreal.

PERMUTIT CONTROLLED PROCESS WATER ASSURES:

- **Clear, bright, uniform shades.**
- **Freedom from streaks and stains.**
- **Increased production.**
- **Reduced breakage in beaming, winding and weaving.**

PERMUTIT®

WATER CONDITIONING HEADQUARTERS FOR 40 YEARS

We've Grown
With New England
at this same location
Since Andrew Jackson
Was President

•

Our cards and spinning frames helped build America's woolen industry from its very infancy. Today we're still setting the pace with the newest in cost cutting machinery for the woolen, worsted, carpet and felt trade. Investigate our production-leading machines.

•

DAVIS & FURBER
MACHINE COMPANY
North Andover, Mass.

- CARDS
- SPINNING FRAMES
- NAPPERS
- DUSTERS
- PICKERS
- CARD CLOTHING
- TAPES
- APRONS

NEWS *of the Month*

(Continued)

augment a generous experience in the constitutional details of existing fabrics and their performance. Only then can the advanced designer start out successfully to greater heights.

Cotton-Standards Revision. A revision of the standards of American Upland cotton that would abolish the grades of Middling Fair and Strict Good Middling for white cotton and all standards for extra-white cotton has been proposed by the U. S. Dept. of Agriculture. Changes are also proposed in the remaining cotton standards so as to reflect the characteristics of more recent cotton crops insofar as color, leaf, and preparation are concerned.

In the proposed revision, the numerical designations for the grades of American Upland cotton would be deleted. Present physical standards for Good Middling and Good Middling Tinged would be changed to descriptive standards. Present descriptive standards for Strict Middling Spotted, Middling Spotted, Strict Low Middling Spotted, and Low Middling Spotted would be changed to physical standards. And the size of the practical forms (boxes) would be reduced to make for more convenient handling.

The present standards for the various grades of American Upland cotton have been in effect since August, 1947. The Department of Agriculture proposes to make the revised standards effective by August first of next year.

Quality-Control Society Expands. Industrywide divisions in various fields are to be formed by the American Society for Quality Control, it has been made known by the directors of the society. The first such division will be the textile division, which is expected to be formally activated next month.

The division will hold national and regional meetings on a periodic basis to further the use of statistical quality-control methods in textile mills. A 2-day textile quality-control conference will be held at Clemson, S. C., on August 22 and 23, at which time it is expected that the present textile technical committee will be dissolved and the newly formed division will take over its duties.

Election of ASQC textile-division officers is being held prior to next month's meeting by means of a mail ballot.

Labor Figures for March. Cotton textile workers averaged $1.19 an hour in March of this year, exclusive of shift and overtime premiums, according to a survey released by the Bureau of Labor Statistics in the Department of Labor. Average earnings on carded-yarns products amount to $1.18 and those on combed-yarn products $1.24.

Wage levels were influenced by the fact that about 85% of cotton-mill employment is concentrated in the Southeast. About three-fourths of the national wage average by mill, sex, and type of yarn produced or woven were either the same as or were not more than 5¢ an hour higher than in the Southeast. In contrast, the wage levels in New England exceeded the national averages by from 6 to 32¢ an hour.

About 336,000 workers are located in Southeastern cotton mills; about 9,000 more are in the Southwest. New England has nearly 40,000 in total employment; and the Middle Atlantic region, about 5,000 workers.

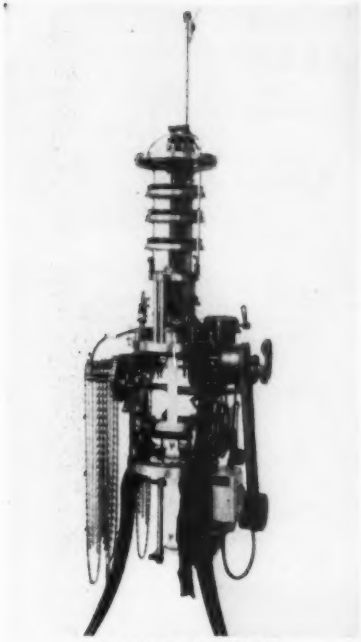
Wool-Standards Sale Changes. The sale of partial sets of wool standards has been discontinued, and an increase in the charge made for full sets of wool and wool-top standards has been made by the U. S. Dept. of Agriculture. The changes became effective June 20.

The new charges are $20 each per set of wool standards or of wool-top standards, f.o.b. Washington, D. C. A set of standards for grades of wool consists of 12 mounted specimens of wool from Grade 80's (Fine) to Grade 36's (Braid). A set of standards for grades of wool top consists of 13 mounted specimens of wool top from Grade 80's to Grade 36's. A charge of an additional $4 per set of either standards is made for shipment outside the continental United States.

Charges for demonstrator types (specimens of individual wool-top grades) has been increased to $2. The charge for 9-lb. balls of individual wool-top grades has been increased to $40.

Recommended Flammability Standards. Three classes of flammability have been drawn up in a recommended commercial standard for apparel fabrics by the commodity-standards division of the U. S. Dept. of Commerce: Class 1 (covering textiles generally accepted by the trade as having no unusual burning characteristics), Class 2 (covering textiles recognized by the trade as having flammability characteristics between

(*Continued on page 273*)



STANDARD EQUIPMENT
FIDELITY MACHINE CO.
Model S-49G, Multi-Design Ribber

IT PAYS TO USE WESCO
ELECTRIC STOP-MOTIONS
FOR OUTERWEAR • UNDERWEAR • HOSIERY
STANDARD THE WORLD OVER

WESCO stop motions were especially designed and built to give perfect protection against knitting breakdowns, broken needles, unnecessary press-offs, smashes and wasted yarn. Always specify WESCO for trouble-free production when ordering new machines.

LOOK FOR "WESCO" ON ALL THESE KNITTING MACHINES:

H. Brinton Co.
Charles Cooper Co.
Crane Manufacturing Co.
Edmos Products Corp.
Fidelity Mach. Co., Inc.
Jacquard Knitting Mach. Co.
Lamb Knitting Machine Co.
Leighton Machine Co.
Ordnance Gauge Co.
Scott & Williams, Inc.
Stafford & Holt, Inc.
Supreme Knitting Mach. Co.
Wildman Mfg. Co.

STOP-MOTION DEVICES CORP.
1471-77 Fulton St. **Brooklyn 16, N. Y.**
Another of a Series of Knitting Machine Builders, Others to follow

Industry's Most DEPENDABLE Belt Joints

Proven by use and comparison, Clipper Belt Hooks assure longest service. Made from uniformly high quality, fatigue resisting wire produced exclusively to meet our rigid specifications. For easy application and maximum uninterrupted service, use GENUINE Clipper Belt Lacers. There is a type and size for your needs.

Ask your Mill Supply Jobber for CLIPPER Products.

No. 9 Portable Lacer

CLIPPER BELT LACER CO.
Grand Rapids 2, Michigan

LENGTHEN THE LIFE OF YOUR CARD GRINDERS

Roy service engineers—card grinding specialists—are always at your service. They will go to your plant to work out your card grinding problems, check your machinery, give you constructive information on grinding bare cylinders or card wire.

Maintenance is top importance now.

B. S. ROY & SON COMPANY
Established 1868
WORCESTER, MASS. — CHARLOTTE, N. C.
Sales Engineers in the South:
W. P. Cooper—L. P. Bell—W. F. Crowder
Office and Plant, 1623 North Tryon Street, Route 29, Charlotte, N. C.—Tel. 5-3845

U.S. TEXTILES
and Yarns
UNITED STATES RUBBER COMPANY
Back of this label a tradition of quality

It Runs BEST
Because it *IS* BEST!

That's why our customer list of yarn users in every industry, sparkles with quality names. We are proud of these customers, because only the best can go into their products. It is very satisfying to consistently produce the quality yarns that help us to be a part of their successful future.

COMBED YARNS
8's to 50's — singles

CARDED YARNS
2's to 30's — single and ply

SPUN YARNS
viscose, acetates, blends
8's to 30's — single and ply

DYNEL YARNS
PUTS-UPS • CONES • DYE TUBES

From the Textile Division
UNITED STATES RUBBER COMPANY
1230 Avenue of the Americas, New York 20, N. Y.
Manufacturers of yarn and fabrics for Home and Industry
BRANCH OFFICES:
1407 Broadway, New York City • 132 Birnie Ave., Springfield, Mass.
Gastonia, N. C. • Chattanooga, Tenn.

NEWS ABOUT *Suppliers*

Equipment Suppliers

Ainsworth Mfg. Corp., Detroit, Mich., has appointed C. W. Verrier production superintendent, and Robert Hanna manufacturing engineering superintendent.

Anker-Holth Div., Wellman Eng. Co., Port Huron, Mich., has appointed Robert Oehler district sales engineering manager for the Chicago area.

Beckman Instruments, Inc., So. Pasadena, Cal., has established a new Special Products Div. under direction of J. F. Bishop. The division is designed to study and develop instruments and applications for industry.

Carbomatic Corp., Freeport, N. Y., announced its move to the new location recently. The new location gives larger quarters and better manufacturing facilities.

Conoflow Corp., Philadelphia, Pa., has appointed Instrument Sales Corp. its representative in the Northwestern area.

Draper Corp., Hopedale, Mass., has appointed Mr. James H. Richardson assistant treasurer. He was formerly with Price, Waterhouse & Co.

General Electric Co., Schenectady, N. Y., will build a multi-million dollar plant for the production of transformers at Rome, Ga. The new plant will employ 1,700 persons. The plant should be completed by mid 1952.

Hartford Machine Screw Co., Inc., Hartford, Conn., will open a Southern division at Greenville, S. C. under the direction of A. E. Winslow. The company will handle the former Century spindle under the name of the Hartford spindle.

Howe Scale Co., Rutland, Vt., has appointed five new branch managers, as follows: Fremont Fisher, Chicago, Ill.; Manuel J. Kauffman, Philadelphia, Pa.; John R. Berry, Denver, Colo., Charles J. Koch, New Orleans, La., O. B. Phillips, Seattle, Wash.

JOSEPH J. McGUINNESS joins Dexter Chemical Corp., New York as director of public relations and advertising. He is a former McGraw-Hill editor and left Carl Byoir & Associates to join Dexter.

Hyster Co., Portland, Ore., has assigned Peter Lewis as a motor-freight-sales representative. Lewis will work from the Peoria, Ill., office.

Karl H. Inderfurth, Charlotte, N. C., has announced the association of Mr. Henry T. Dozier with his firm. Mr. Dozier will handle Belle Chemical Co. line of dyes and other items in the preparatory and finishing-equipment line.

Kidde Mfg. Co., Inc., Bloomfield, N. J., has agreed to purchase a 64-acre tract of land in Roseland, N. J. The company proposes to build a modern plant there to make knitting machinery.

Loom Reed Co., Greensboro, N. C., has just awarded a contract for the construction of a 4,000-sq.ft. addition to its plant. High-count and fine-count loom reeds will be made in the new area.

Leeds & Northrup Co., Philadelphia, Pa., has recently purchased a 125-acre tract of land

Duesberg-Bosson WOOLEN CARD and PERALTA MACHINE

(PATENTED)

Shown here: 3-cylinder set with Peralta Machine. Also available in 2-cylinder and 4-cylinder sets.

All foreign matter entangled in the web as it passes from the doffer is pulverized by the two Peralta Rolls, thereby eliminating this foreign matter from the stock.

BUILT in two sizes, 78¾" and 72¾", this well-known woolen carding machine offers substantially greater production and noticeably improved quality because of inherent design features and operating advantages.

A new 2-cylinder carpet card now in operation in the Duesberg-Bosson Woolen Spinning Co., Jefferson, Mass., is causing great interest.

CATALOG AVAILABLE ON REQUEST

Duesberg-Bosson of America, Inc.

Manufacturers of Woolen Machinery, Developed from a Background of Over 115 Years

FITCHBURG ★ MASSACHUSETTS

TYER
Rubber Covered
ROLLS
For TEXTILE Mills

Compounded of natural or synthetic rubbers to meet specific requirements.

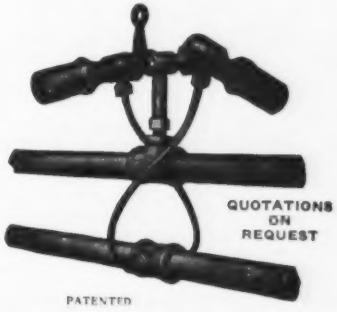
Tyer RUBBER COMPANY

ANDOVER, MASSACHUSETTS

A Trial Order

One Master Mechanic said, "Our Jackson Humidifiers have operated for more than a year and we haven't put a wrench to one yet. A great improvement over old humidifiers." Other mills have operated Jackson Humidifiers for years. A trial should convince you.

Write for Illustrated Folder



JACKSON MOISTENING CO., INC.

CENTERDALE 11 RHODE ISLAND

OVER 2500 FADE-OMETERS

are now in use

for maintaining quality control in the manufacturing of a wide variety of products from all kinds of textiles including many types of synthetics, to printing inks, plastics, wallpaper, and any product subjected to the deteriorating effect of sunlight in use. This machine is also widely used for testing the fading, and resistance to sunlight of many new products now in the process of development. Positive, dependable results can be obtained in the laboratory in a fraction of the time required by any other method of testing. Exact duplication of tests can be made at any time in the process of improving the resistance to sunlight of any product. *Write for complete information and scientific data on the operation of the Atlas Fade-Ometer.*

ATLAS ELECTRIC DEVICES COMPANY

361 W. Superior St., Chicago 10, Illinois, U.S.A.

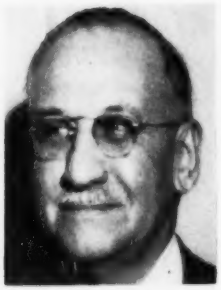
Manufacturers of accelerated testing equipment for over a quarter of a century.

WEATHER-OMETERS • LAUNDER-OMETERS • FADE-OMETERS

248 For more information, write direct or use Reader Service post card.

News About SUPPLIERS (Continued)

WILLIAM B. GRIFFIN has joined Dexter Chemical Corp., New York, to cover the Georgia, Alabama, and Tennessee area, taking the position left vacant by the death of Dudley B. Setzler.



GEORGE O. LINBERG has been elected vice president and New England sales manager of Synthron, Inc., Ashton, R. I. He is well known to the industry as a chemist and dyer.

at North Wales, Pa. The ultimate use of the land is yet to be determined.

Minneapolis-Honeywell Regulator Co., Philadelphia, Pa., has named O. B. Wilson field sales manager for Industrial Div.

Wamesit Warper Co., Lowell, Mass., will operate under the name of Allen Warper Co.

in the future. R. Udell Thornton, president of Allen Beam Co., New Bedford, Mass., will be president-treasurer of the company. William S. Peterson, assistant treasurer-secretary, will be in charge of production.

York Corp., York, Pa., has named William T. Harris assistant to the district commercial sales manager in the South at Atlanta, Ga.

Chemical & Yarn Suppliers

Celanese Corp. of America, New York, has revised the plans for their building in Charlotte, N. C., to include 250,000 sq. ft. of floor space, increasing the cost to $5 million. A new textile division has been established to operate the company's textile activities. K. C. Loughlin has been appointed general sales manager of the division. Other changes include naming of E. W. Best, Jr. district sales manager of the Charlotte area, Charles E. Rodgers as sales manager—staple fiber, and E. H. Bogardus as the sales manager of the rayon and filament yarn division.

The Chemstrand Corp., Decatur, Ala., appointed Robert T. Granger manufacturing superintendent of the yarn area in their nylon plant being built at Pensacola, Fla. Mr. Granger was formerly with American Viscose Corp., one of the Chemstrand parent companies, as a research and development engineer.

Dewey & Almy Chemical Co., Cambridge, Mass., has appointed John G. Broughton to its sales staff. John H. McCarthy, Jr. has also joined the company to sell adhesives and coatings in the Eastern area.

Dow Chemical Co., Midland, Mich., has named Dr. R. H. Boundy to head the research activities of the company. In his new position, Dr. Boundy replaces the old research committee, thus allowing the members to devote full time to their own jobs. C. B. Branch has been promoted to head the plastics department, and John Van Horn to manager of technical services.

E. I. du Pont de Nemours & Co., May Plant, Camden, S. C., has appointed T. D. Steele assistant plant manager. J. H. Ellet has been moved up to the nylon manufacturing division, and S. G. Crews to superintendent of yarn and staple plants. G. W. Stahl has

This is the amazing "before-and-after" story

Textile World, November, 1951

New Agents Clean Machine Parts by Cold Dipping

BEFORE

AFTER

A remarkable cleaning job is claimed for Kleenapart and Kleenakarb, new cleaning agents developed by The Selig Co., 336-350 Marietta St., N.W., Atlanta 1, Ga. The agents will clean valves, gears, sprockets, frames, chains, screens, and all machine parts. The removal of oil, grease, dirt, grime, carbon, and other foreign matter is accomplished by a simple "cold dipping" process that requires no attention, it is claimed. Parts to be cleaned are simply immersed in Kleenapart or Kleenakarb for the required length of time, then removed, rinsed, and are ready for use or storage. Both products are listed by the Underwriters' Laboratories and are safe to use when directions are followed.

that's told over and over again!

Selig's Kleenapart and Kleenakarb were originated to meet the exacting requirements of the aircraft industry. Peacetime industries, one after another, quickly grasped these amazing benefits: Complete removal of oil, grease, dirt, carbon and other foreign matter from metal parts by a simple "cold dip" process. Long life and low cost are included with the many advantages of using . . .

Kleenapart-Kleenakarb

Clean Machine Parts by Cold Dipping

Manufactured only by

The Selig Co.

Manufacturing Chemists

Since 1896

QUALITY · SERVICE · SELIG · PROTECTION

ATLANTA

DALLAS · NEW ORLEANS · HOUSTON

PENICK & FORD, LTD., INCORPORATED

CORN STARCHES, DEXTRINES, GUMS, CORN SUGARS & SYRUPS

NEW YORK, N. Y. - - - - CEDAR RAPIDS, IOWA

SOUTHERN OFFICES: ATLANTA, GA. - - - - SPARTANBURG, S. C.

John:

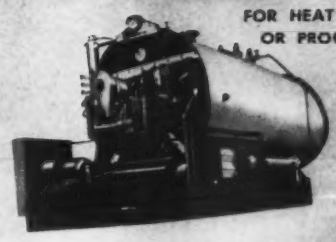
Let's order new Douglas Spunray Gum for warp sizing spun rayons, spun acetates and mixtures.

Understand protects yarns like standard starches yet desizes completely in soap and water.

Jim

STEAM

FOR HEAT OR PROCESS



A complete steam plant backed by undivided responsibility • Shipped completely assembled • More than 80% thermal efficiency guaranteed • 4-pass design provides 5 sq. ft. of heating surface per b.h.p. • Built-in induced draft eliminates need of expensive chimney • Simple installation • Clean, quiet operation • Heavy-duty construction assures long-lived dependability.

Superior Steam Generators are manufactured in 18 sizes from 20 to 600 b.h.p. for pressures up to 250 p.s.i. or for hot water heating.

For complete details, write for Catalog 318

Factory: Emmaus, Pa.

Exec. Offices: Times Bldg., Times Sq., New York N. Y.

SUPERIOR STEAM GENERATORS

CONSERVE YOUR QUILLS!

Use the

NASH "79" QUILL POLISHER

to relacquer worn quills

You need not discard your old loom bobbins because they are worn or have slight surface imperfections. They can be sanded smooth, and re-coated with finishing material.

If your quills are in good condition, the conventional way of using the Nash No. 79 with steel wool pads, special polish and burnishing pads will produce a perfect surface finish, preventing filament breakage or transfer of dirt to the yarn.

Failure of the finish coat calls for a complete refinishing operation on the body of the quill, and the Nash relacquering attachment was developed to meet this need.

Lacquers 30 to 35 Quills Per Minute

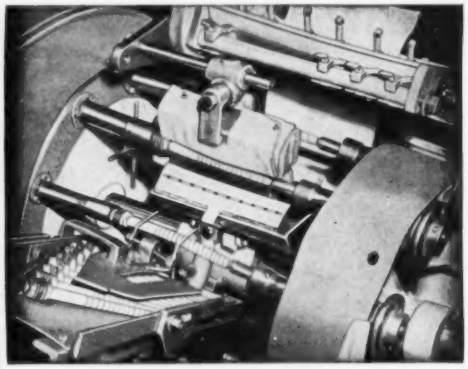
With the relacquering attachment just developed for use with the Nash No. 79 Quill Polisher, you can apply a new coat of Lacquer or else a shellac and oil finish—automatically at 30 to 35 bobbins per minute. The attachment is easily attached or removed.

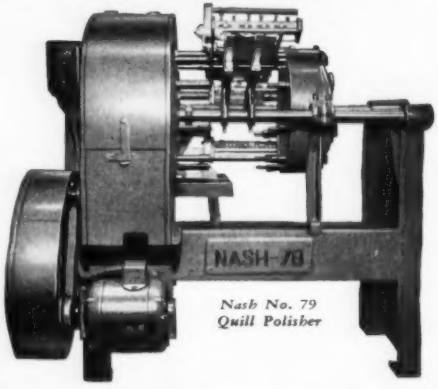
Write for descriptive material on the Nash No. 79 Automatic Quill Polisher and Relacquering attachment.

J. M. NASH COMPANY

2364 N. 30th Street Milwaukee 10, Wisconsin

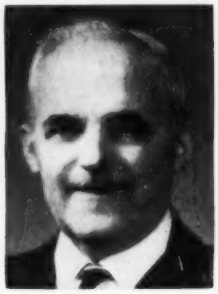
Close-up of Relacquering Attachment





Nash No. 79 Quill Polisher

News About **SUPPLIERS** (Continued)



JOHN J. KAUFMANN, SR. (left) and VICTOR C. HASSOLD (right) have been elected to the positions of chairman of the board and president, respectively, of Steel Heddle Mfg. Co.

been promoted to the job of technical superintendent vacated by Mr. Steele.

Libby-Owens-Ford Glass Co., Parkersburg, Va., has appointed Robert O. Bradley industrial engineer for the Fiber-Glass Div. factory.

Nopco Chemical Co., Harrison, N. J., awarded solid gold watches to thirteen 25-yr. veteran employees. Gold service emblems were given at the same ceremony to sixteen new 15-yr. club members.

Quelcar, Inc., Chester, Pa., a new plastics company, has been organized with Dr. J. Watson Pedlow as the head. Dr. Pedlow was formerly assistant director of the Marcus Hook, Pa., mechanical-development department of American Viscose Corp.

Solvay Process Div., Allied Chem. & Dye Corp., Syracuse, N. Y., held dedication ceremonies for its new soda-ash plant, with an open house for employees and the public. Capital investment in the 220-ft. high structure was over $20 million. On June 1 this year Solvay Sales Div. were consolidated and designated as Solvay Process Div., Allied Chemical & Dye Corp.

Taylor Instrument Co., Rochester, N. Y., has named Louis C. Chesley to the sales staff. He will operate in the Syracuse area under the regional head, J. K. Hill.

Union Carbide & Carbon Corp., New York, has appointed Dr. W. Nelson Stoops assistant director of research in physical chemistry, at the plant at South Charleston, W. Va.

Virginia-Carolina Chemical Corp., New York, has appointed Carl C. Mattmann director of fabric development. He will assist manufacturers with the development of yarns, fabrics, and garments containing Vicara fiber.

Philadelphia Quartz Co., is celebrating its 120th year of continuous business.

COMPLETELY EQUIPPED TESTING LABORATORY has been set up by Taylor, Stiles & Co., Riegelsville, N. J. Experimental cutting of samples will be done free of charge to those who request the service.

New Huffman Holder Licks Picker Problems!

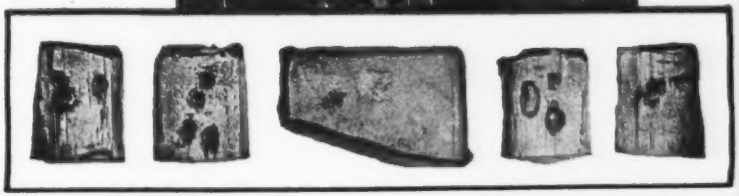
U. S. PAT. NO. 2,569,994

This shows how snugly the new Huffman interlocking metal holder bonds picker and picker stick. A simple turn of the socket wrench gives any desired adjustment. Cannot move or slip after adjustment.

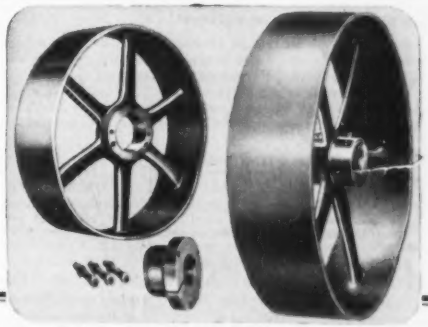
At last, an adjustable metal picker holder that holds pickers parallel with a bull-dog grip. Easily adjustable with socket wrench to any fraction of an inch. Interlocks picker and picker stick to greatly prolong life of both parts. Can be used over and over with our prepared sticks. Order today from . . .

THE HARDWOOD MFG. CO.
P. O. Box 929 Greenville, S. C.

Actual unretouched photos at right show damage caused to picker sticks and pickers by the old method of attaching and adjusting with common wood screws.



BUY ★ U.S. ★ SECURITY BONDS NOW!



A Woods PULLEY FOR EVERY NEED

"SURE-GRIP" STOCK PULLEYS. With straight or crown face. One-piece flanged and split tapered hub permits easy installation and removal from the shaft. Available for immediate delivery in 2½" to 12" face widths and 4" to 36" in diameter.

STANDARD PULLEYS. Solid or split through rim and hub with straight or crowned face. Accurately bored and carefully balanced. Diameters 2" to 120"—face width from 2" to 60".

SPECIAL PULLEYS. Flexible pattern set-up and modern foundry facilities permit us to make made-to-order pulleys without delay.

For complete information and prices consult your Industrial Distributor or write for literature

T. B. Woods SONS COMPANY
CHAMBERSBURG, PA.

Mechanical Power Transmission Manufacturers—Since 1857.

CAMBRIDGE, MASS. • NEWARK, N. J. • DALLAS, TEXAS • CLEVELAND, O.

how to prevent lead sulphide stains on viscose fiber

Versene* (REGULAR)

LEAD SULPHIDE SOLUBLE IN VERSENE*

Sulfuric acid, stored in lead, forms lead sulfate which usually deposits on the Viscose fiber as it is coagulated. If this lead is not removed, subsequent desulfurizing precipitates it as the black sulfide. This results in a grey-stained yarn. A Versene rinse can remove the lead at any time — if equipment for a recycled wash is available in the processing line.

VERSENE* MAKES VISCOSE WHITE

Lead compounds, including Lead Sulfide, are soluble in weakly acidic Versene solution. For maximum efficiency, the Versene should be used as a rinse after the acid-coagulating bath and before desulfurizing. The pH of the Versene should be approximately 5.5. Versene cannot be added to the acid-coagulating bath because the lead chelate (complex) of Versene will not be formed in strongly acid solutions. When properly used, Versene assures a *white* yarn.

VERSENE* — WHAT IT IS

Versene (regular) is one of a family of powerful organic complexing agents for the exacting chemical control of cations in solution. Known as ethylene diamine tetra acetic acid sodium salts, it has the ability to form soluble non-ionic chelates with polyvalent metallic ions. It permanently changes the character of these ions in solution. Amazingly stable at all temperatures and pH's, Versene is manufactured to highest specifications. Its uniform quality guarantees uniform results. Write Dept. D. Send for Technical Bulletin No. 2. Ask for sample.

NEW VERSENE WATER TEST KIT. Tells total hardness in two minutes. Accurate to one grain per gallon. Versenate Method. Complete Kit $5.00 Postpaid.

"INDUSTRY'S MOST MODERN CHEMICALS" *Trade Mark

BERSWORTH CHEMICAL CO.
FRAMINGHAM, MASSACHUSETTS
Warehouse Stocks

Providence, R. I. — George Mann • New York (Brooklyn) — Siegel Chemical Co. Chicago — Kraft Chemical Co. • St. Louis, New Orleans, Dallas, Houston — Berado & Page • Charlotte, N. C. — Chas. S. Tanner Co.

252 For more information, write direct or use Reader Service post card.

News About **SUPPLIERS** (Continued)

FRED J. EBELING has been appointed general sales manager of Dodge Mfg. Corp., Mishawaka, Ind.

HERBERT E. KRESSE has rejoined Kearny Mfg. Co., Inc., Kearney, N. J., as vice president and general manager.

Interchemical Corp., Hawthorne, N. J., has elected Norman S. Cassel vice president in charge of research and development activities. He replaces Dr. A. E. Gessler, who will remain as a full-time consultant with the title of Emeritus Director of Research.

The Borden Co., Demopolis, Ala., plant has begun production of formaldehyde, synthetic resins, and hexamethylenetetamine. The one-million-dollar plant is the first in the area of its kind.

Emery Industries, Inc., Cincinnati, Ohio, recently awarded a diamond 50-year pin to the first of its employees to receive the honor, Mr. Joseph Worpenberg.

Emery has established a research fellowship at the University of Cincinnati to further the study of the chemistry of fats and oils.

Monsanto Chemical Co., Everett, Mass., has established research fellowship in textile chemistry and physics at N. C. State College. The fellow will be chosen by the college for the $1,200 grant.

Other Services

American Associated Consultants, New York, has obtained the services of David H. Johnson on its staff. Mr. Johnson is at present on an assignment at Fabrica de Hilados y tejidos del Hato, Medellin, Colombia, S. A.

ASTM, Philadelphia, Pa., has appointed Robert J. Painter treasurer of the society. He succeeds John K. Rittenhouse, who has retired after 43 years of service.

Lowell Textile Institute, Lowell, Mass., recently awarded Francis P. Madden an honorary Master of Science degree for distinguished service to the college and to the textile industry.

National Federation of Textiles, Inc., New York, has re-elected Alexander F. Ix president. Vice-presidents reelected were: John Fox, Andrew J. Sokol, and Jacques Weber.

Phi Psi Fraternity, N. C. State chapter, has chosen Herman Cone of Greensboro, N. C., as "Man of the Year." The award was made at a formal ceremony by James McArthur, president of the chapter.

Quartermaster Dept. U. S. Army has announced the resignation of Maj. Robert E. Willett, Chief of the General Testing Labs., Philadelphia, Q. M. Depot. Capt. John P. Dougherty will succeed him at the Philadelphia billet.

Scheuer Associates, New York, announced the appointment of James R. McInvaill to the synthetic-yarn division.

EMPIRE
REG. U. S. PAT. OFF.
TEXTILE MILL
CRAYONS
EMPIRE TEXTILE MILL CRAYON
Don't compromise on
Quality --- Get the BEST
By every standard of comparison EMPIRE Textile Mill Crayons are the BEST . . . The result of careful research and study they are the result of more than a century of experience by Crayon engineers . . . When marking COUNTS you can always COUNT on EMPIRE Textile Mill Crayons.
The American Crayon Company
Sandusky, Ohio
New York

TEXNOVO AUTOMATIC SHUTTLELESS TAPE & RIBBON LOOM

for 2 - 10 or 20 spaces

TEXNOVO S.P.A. Via Revere, 8
ITALY MILAN

DANA WARP MILLS

Westbrook, Maine

Cotton yarns, single and ply
Cotton warps, single and ply
Colored yarns and warps
Spun rayon—yarns and warps

Spinners of Fine Woolen, Merino & Specialty Yarns

The ALDON SPINNING MILLS Corp.
TALCOTTVILLE, CONN.
Represented by
Richard C. O'Brien
Boston • New York • Philadelphia • Chicago

ROME SOAP MFG. CO.

WRITE US FOR SAMPLES AND QUOTATIONS

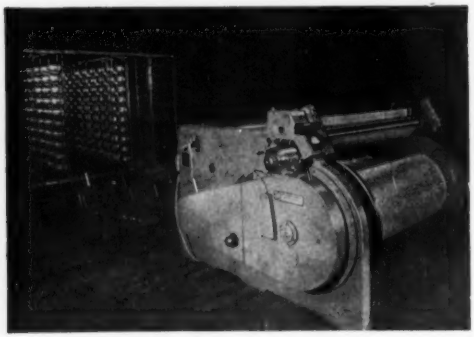
MANUFACTURERS OF
Textile, Laundry
and
Special Soaps
ROME, N. Y.

TENTERING and DRYING MACHINERY

For further information see McGraw-Hill Textile Catalogs

D. R. KENYON & SON
RARITAN, NEW JERSEY

High Speed SIPP-EASTWOOD WARPER Now Available with choice of drives.



This warper may be had with *fully electronic drive* (for extremely accurate control of yarn speed)—or with *Rider Roll Rheostat type drive.*

The High-Speed Sipp-Eastwood Warper with its choice of drives, sturdy, extra-heavy construction, smooth application of power, spindle-driven beam, and dependable V-belt drive makes for more efficient operation. Its speed is only governed by the yarn.

OUTSTANDING FEATURES:

1. *Spindle driven beam builds up to 36" in diameter, 54¼" wide, or wider.*
2. *Electrically operated hydraulic brakes, automatically adjusted to beam load.*
3. *Variable finger-tip speed control, effective to as close as 1%.*
4. *Hydraulic beam doffing.*
5. *AC current only required.*

—•—

Ask for all the facts about this efficient warper.

SIPP-EASTWOOD CORPORATION
47 Keen Street **Paterson, New Jersey**

DOMESTIC AGENTS:

S. FRED TOLL
2115 W. Morehead Street
Charlotte 1, N. C.

J. S. FALLOW & CO.
New Bedford,
Mass.

J. S. FALLOW & CO.
4846 Sherbrooke St. West
Montreal, Canada

NEWS ABOUT Mills

Cotton Mills

Abney Mills plant located at Anderson, S. C., has converted its steam boilers from coal to natural gas.

American Thread Co. has leased a plant that was formerly occupied by Chicopee Mfg. Co., Newnan, Ga. A spinning plant has been established.

Appleton Co., Anderson, S. C., a division of J. P. Stevens & Co., Inc., has begun construction of a new community building that will cost about $15,000. Building, which will accommodate 175 persons, includes a fully equipped kitchen.

Barkman & Bixter is opening a new subsidiary in Fall River, Mass., which will be known as Chase Mills Mfg. Co. New equipment for the manufacture of curtains will be installed. About 100 persons will be employed.

Beaumont Mills, Spartanburg, S. C., is constructing a $70,000 warehouse for cloth. The building will provide 28,000 sq. ft. of floor space. C. M. Guest & Sons is the contractor.

Buffalo Weaving & Belting Co., Buffalo, N. Y., has filed plans with the city to enlarge its plant building at 190 Chandler St. The estimated cost is $55,000.

Cone Export & Commission Co., Inc., New York, N. Y., has changed its corporate name to Cone Mills, Inc. The company, which is a subsidiary of Cone Mills Corp., Greensboro, N. C., is the selling agent for the parent company as well as for Alexander Mills, Forest City, N. C., and Houston Textile Co., Houston, Texas.

Dalton Candlewick, Inc., and **Candlewick Yarn Mills**, Dalton, Ga., have been sold to C. Ralph Ewing and the Dixie Mercerizing Co., Chattanooga, Tenn. Mr. Ewing will be president of these companies. There will be no change in operations.

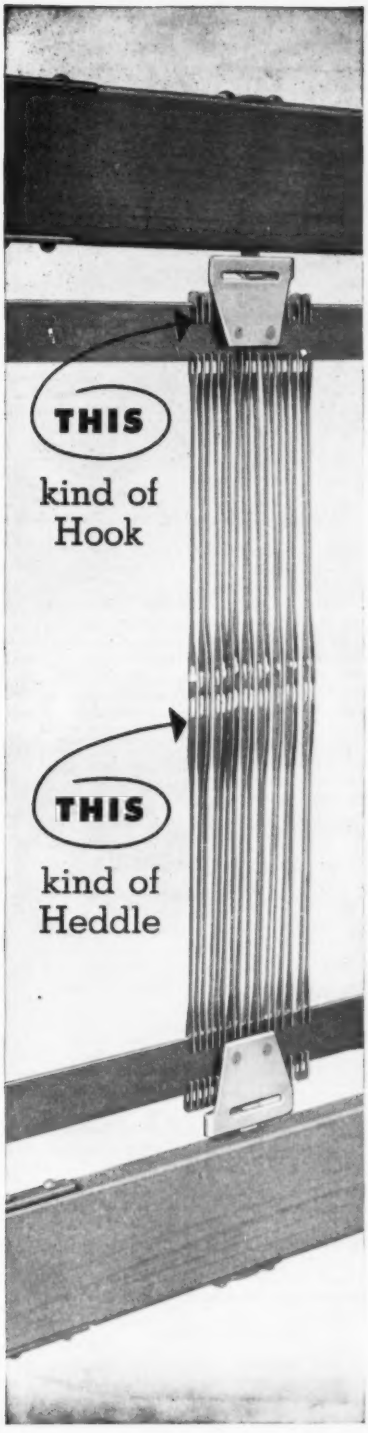
Dominion Textile Co., Ltd., Montreal, Que., is proceeding with the modernization of its mill and expects to have the program completed by mid-fall. The buildings are being extensively renovated and any machinery regarded as obsolete is being replaced with new equipment.

Draper State Prison, Speigner, Ala., has purchased new equipment for its cotton-mill operation. The old machinery has been sold to a firm in Nicaragua.

Dundee Mills, Inc., Griffin, Ga., has let general contract for an addition to local Mill No. 1 to C. M. Guest & Sons, Inc., Anderson, S. C. The cost is reported to be about $1,000,000, with equipment. J. E. Sirrine Co., Greenville, S. C., is the architect and engineer.

Floyd Mills, a unit of A. D. Juilliard & Co., Rome, Ga., has been purchased as an in-

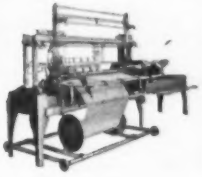
REEVES BROS., INC., recently dedicated its new synthetics-fabrics-finishing plant in Bishopville, S. C. It will be known as the Bishopville Finishing Co., Division of Reeves Bros., Inc. The brick-and-steel structure is completely air conditioned, and provision was made for future expansion.



You can improve your weaving **NOW** and be ready for a Warp Drawing Machine **LATER** if you will gradually re-equip with **FULL-FLOATING** type Harness Frames and key-hole type Heddles...

The Barber-Colman Warp Drawing Machine requires equipping your looms with harness having steel heddles of the type shown here, in order that the selecting mechanism may properly position the correct heddle eye for each drawing-in needle stroke. Also, these harness must have support bar hooks of the type shown, in order that the heddles may move freely the full length of the frame. The machine holds the heddles in a group, setting them off at proper intervals as each is drawn. This full-floating construction *improves weaving immediately* by removing restrictions and permitting each heddle to find its proper in-line position in the frame.

Now, the cost of such harness may amount to more than the cost of the Warp Drawing Machine. This should not discourage consideration of the machine, in view of the advantages of substantial cost savings in warp preparation. Since you are replacing heddles and harness frames frequently and constantly as they wear out — why not start *now* to replace with the type that can be used on a Barber-Colman Warp Drawing Machine? Then, when you are ready for the machine, the problem of special harness will have been solved. For details in connection with such a program, we suggest you consult your Barber-Colman representative.



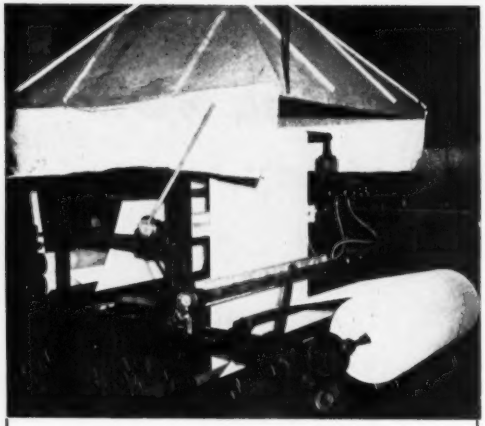
Automatic Spoolers • Super-Speed Warpers • Warp Tying Machines • Drawing-In Machines

BARBER-COLMAN COMPANY

ROCKFORD, ILLINOIS, U. S. A.

FRAMINGHAM, MASS., U. S. A. • GREENVILLE, S. C., U. S. A.

MANCHESTER, ENGLAND • MUNICH, GERMANY



RED RAY BURNERS

For a Better Singe

Red Ray Burners installed on a singeing machine give better and faster singe. Reduce costs.

Write for further information

Red Ray Manufacturing Co., Inc.

455 W. 45th St. New York, N. Y.

For Maintained Shrinkage-Perfect Finish—Long Life

HUYCK COMPRESSIVE SHRINKAGE BLANKETS

for use in shrinking fabrics to the *"Sanforized"* standard by the compressive shrinking process, are daily meeting the most exacting requirements of finishers throughout the industry. From the lightest and finest fabric to the heaviest denim, there is a special Huyck blanket to meet your specific needs.

Huyck blankets retain high shrinkage and finish properties to the last.

PALMER BLANKETS—also available for your special requirements.

Write for information or see our representative

KENWOOD TEXTILE PRODUCTS

F.C. HUYCK & SONS

Kenwood Mills · Rensselaer, N.Y.

News About MILLS (Continued)

vestment by C. B. Horton of Rome. The machinery was sold separately.

Georgia Twine & Cordage Co., Forsyth, Ga., has been sold to N. A. Hardin and L. T. Newton. The company has been reorganized under the name of Forsyth Twine & Cordage Co. The new officers include Graham Wright, Jr., general manager; Joe E. Dorner, sales manager; W. V. Gray, superintendent.

Kerr Thread Mills, a division of American Thread Co., Fall River, Mass., will transfer all operations to Sevier, N. C., by the end of 1953. Last year the company announced the transfer of its finishing division to its new plant in Sevier, but at that time no decision was reached concerning the industrial and domestic thread operation now at the Kerr Mills.

Standard - Coosa - Thatcher Co., Inc., Chattanooga, Tenn., has let the general contract to Mark K. Wilson Co., Chattanooga, for the one-story addition to the cotton-classification building at the mill, including improvements and alterations in the present structure. Robert & Co. Associates, Atlanta, Ga., is the architect and the engineer. The company has opened a branch office and warehouse at 1427 North Broad St., Philadelphia, Pa. Earle R. Dillmore is the manager.

Woolen & Worsted Mills

Albany Felt Co. of Canada, Ltd., Cowansville, Que., a subsidiary of Albany Felt Co., Albany, N. Y., expects to have construction of its new plant in Cowansville completed soon. The plant is designed so that it can be enlarged without disturbing the initial installation. The initial machinery will consist of three cards, four spinning frames, and a minimum of nine looms, with the necessary preparatory and finishing equipment for paper-makers felts, as well as other industrial fabrics.

Crown Mfg. Co., Worsted Div., Woonsocket, R. I., has changed its name to Lippitt Worsted Mills Div. of Crown Mfg. Co. The company was formerly known as the Lippitt Woolen Co.

Hartford Spinning, Inc., Unionville, Conn., is now operating its synthetic combing plant which contains 9 worsted cards and 9 Noble combs. The firm also has a garnetting plant with 4 garnetts, 6 shoddy pickers, and 20 shoddy cards. The company has installed crimping and crimp-setting equipment for new thermosetting fibers, and a new raw-stock dyehouse.

Lebeau Combing Mills, Ltd., St. Pie, Quebec, has installed new machinery and equipment that gives the mill a total of 4 worsted cards and 8 French-type combs.

London Textile Mfg. Co., London, Ont., recently began operations. F. B. Kann, a textile engineer from Czechoslovakia, heads the company. At present, three looms are operating and two additional looms are being installed.

Montrose Worsted Mills, Granby, Que., has installed a new modern Demiplex hydraulic finishing press. The press is applicable to yarn-dyed worsted fabrics.

Noves-Gebhard Co., Taunton, Mass., has been sold to J. K. Milliken, Jr., who was formerly vice president of Mount Hope Finishing Co. Mr. Milliken plans to continue operations as previously established. L. N. Gebhard will continue with the company as vice president and a director.

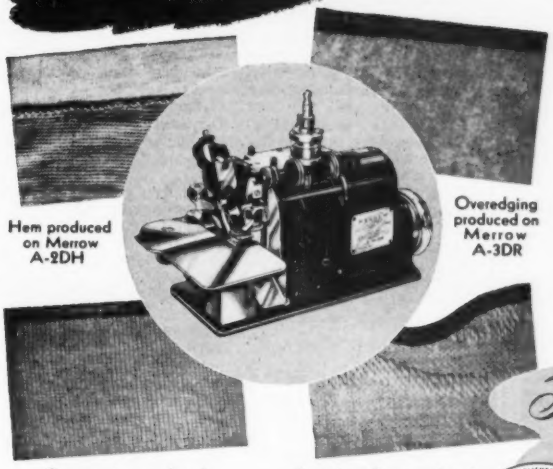
Saskatchewan Wool Products, Moose Jaw, Sask., has expanded its facilities to engage in the manufacture of fine worsted tartans.

Trenholmville Woolen Mills, Trenholm, Que., plans to construct a new mill building that which cost $90,000. E. Blanchette, of Trenholm, is the architect.

Synthetics Mills

Celanese Corp. of America, New York, has revised its plans for the office building to be erected at Charlotte, N. C., in order to add 50,000 sq. ft. of floor space. This additional floor space increases the cost of the building from $3,600,000

"MERROWING" . . . Overseaming, Overedging and Hemming


Hem produced on Merrow A-2DH
Overedging produced on Merrow A-3DR
Overseaming produced on Merrow A-3DW
Smooth scallops produced on Merrow A-3U

Merrow Overstitching Machines reflect over 60 years' experience in the manufacture of industrial sewing machines. The term "Merrowing" . . . used throughout the industry to describe overstitching . . . is recognition of this experience and "know-how"

Illustrated are a few of the many applications possible with Merrow Overstitching Machines.

Let us demonstrate the work of these machines on swatches of your own fabrics: write The Merrow Machine Co., 2803 Laurel St., Hartford 6, Conn.

TRADE MARK REG.

The MERROW MACHINE COMPANY

DISTRIBUTORS IN PRINCIPAL TEXTILE CENTERS

2803 LAUREL STREET • HARTFORD, CONN.

THE LOYAL T. IVES COMPANY EST. 1874

SPRING BEARD KNITTING NEEDLES

For Circular, Full Fashioned, Tricot and Milanese Knitting Frames, also Narrowing, Stand, Transfer Points and Welt Hooks for Full Fashioned Machines: Slides, Sinkers, Jacks, Guides or Flat Eyes, Sley and Milanese Points, Transfer Points or Quills, etc.

Sheet Metal Specialties to Order

NEW BRUNSWICK NEW JERSEY

Acme Products

for seamless hosiery knitting

Speak for Themselves

Up-to-Date Machines
Needles

Economy Makers

ACME KNITTING MACHINE & NEEDLE CO.

FRANKLIN, N. H.

When You Change Your Address . .

It will help us keep your copies of TEXTILE WORLD coming to you each month if you will promptly advise us of any change of address.

Director of Circulation
TEXTILE WORLD,
330 West 42nd St., New York 18, N. Y.
Please change the address of my Textile World subscription.

Name .....

Old Address .....

New Address .....

New Company Connection .....

New Title or Position .....

BARNES SERVICE *Consulting Engineers*
TO THE TEXTILE INDUSTRY FOR OVER ¾ CENTURY

We are pleased to announce the expansion of our consulting services to embrace:

PRODUCTION and INVENTORY PLANNING and CONTROL
SALES ANALYSIS and FORECASTING
SALES PLANNING and PROGRAMMING
SALES and OFFICE STANDARD PRACTICE INSTRUCTIONS
ORGANIZATION ANALYSIS PERSONNEL APPRAISAL

These services will be under the direction of Mr. Peter M. Fekula now affiliated with Barnes Textile Associates, Inc. They will complement our established consulting activities in the fields of general engineering, industrial engineering, cost and quality control, materials handling and industrial relations.

Mr. Fekula has had broad experience in a variety of industries in both consulting and operating capacities. Recently he completed an outstanding project for a well-known textile company which brought about close coordination of production and sales. He has been able to apply to textiles many of the principles which have proved so successful in the automotive and aircraft industries.

We will be pleased to give further information about the services rendered by our new Peter M. Fekula Division, as well as by our other departments.

Surveys—Reorganizations—New Plant Developments for Cotton, Wool, and Synthetic Yarn and Cloth Processing, Bleaching, Dyeing, Printing and Finishing.

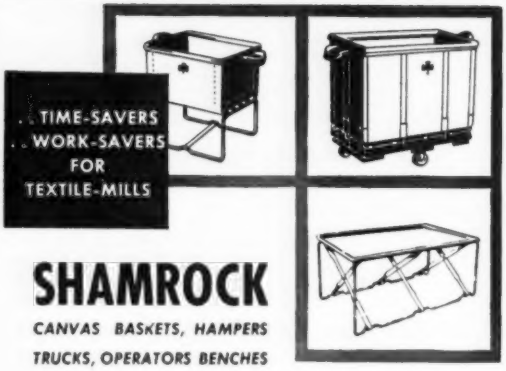
★ Plant Appraisals ★ Mechanical and Operating Surveys—New Methods ★ Scheduling and Planning ★ Work Load Studies, Job Analysis and Evaluation, with Incentive Plans ★ Standard Cost Installations ★ Cost Control Methods

Labormeter Burden-meter Waste-meter

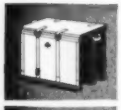
Member: Association of Consulting Management Engineers, Inc.

SERVING THE TEXTILE INDUSTRY OF THE WORLD — CENTURY

BARNES TEXTILE ASSOCIATES, Inc.
10 HIGH STREET, BOSTON 10, MASS.
522 FIFTH AVE., NEW YORK 18, N. Y.
920-922 MONTGOMERY BLDG., SPARTANBURG, S. C.
European Agent, Ralph L. Hedges, 101 Rasumur, Paris 2



SHAMROCK
CANVAS BASKETS, HAMPERS
TRUCKS, OPERATORS BENCHES



• Made in standard sizes or in special sizes to meet your needs. Write for complete catalog.

Mfd. by **MEESE, INC.,** *MADISON, INDIANA*
PHONE 261 OR 262

SALES OFFICES:

NEW YORK—37 W. 43rd St., MU 2-1437. CHICAGO—R. M. Thorsen, 1400 Lake Shore Drive, Whitehall 4-4180. ATLANTA—4403 Jefferson St., Chamblee, Ga., Phone 7-2430. FORT WORTH—V. M. Hooton, 717 Ayers St., Lockwood 6564. SAN FRANCISCO—c/o Glenn B. White & Assoc., Merch. Mart, NE 1-5204. LOS ANGELES—c/o Glenn B. White & Assoc., 1151 So. Broadway, PR 4169.

News About **MILLS** (Continued)

to $5,000,000. C. M. Guest & Sons is the contractor. Staunton Corp. will own the building and rent it to Celanese on a long-term lease. Company is presently constructing plant additions at Rock Hill, S. C., which are estimated to cost $875,000.

Courtaulds, Ltd., Salco, Ala., expects the viscose-staple plant which is now under construction to be ready for operation in October. The plant is expected to produce 50,000,000 lb. of rayon fiber annually. About 500 persons will be employed. Harold Ashton, Bradford, England, is the plant manager.

Delaware Rayon Co., New Castle, Del., plans an addition to its mill which will cost approximately $300,000, exclusive of equipment. Lockwood Greene Engineers, Inc., New York, N. Y., is the architect and engineer.

Domil, Ltd., is the new name of the company formerly known as Dominion Burlington Mills, Ltd. The company has its head offices in Montreal, and the plants are located at Sherbrooke and Montreal.

Gabrey Mills, Inc., Philadelphia, Pa., is the name of a new enterprise that was recently incorporated for $10,000. R. Burnett, B. Reardon, and E. F. McNulty, all of Philadelphia, are the incorporators.

Goodyear Tire & Rubber Co. plans to expand the facilities of its Gadsden, Ala., plant in a $10,000,000 program. Contract for the new plant has been awarded to Daniel Construction Co. The building will cost $5,000,000 and a like amount will be spent for new machinery and equipment. Goodyear is now constructing a $1,000,000 warehouse in Gadsden. In Cartersville, Ga., Goodyear-Clearwater Mill is erecting an addition at a cost exceeding $500,000.

International Latex Corp., Dover, Del., has awarded the general contract to Hughes-Foulkrod Co., Philadelphia, Pa., for a new textile mill at Cheswold, Del. The project will cost about $2,500,000, including sewage-treatment works and other operating facilities. Albright & Friel, Philadelphia, is the architect.

Plains Throwing Co., Plains, Pa., is said to have been inspecting a site at South Boston, Va., for a possible plant location.

Textron Southern, Inc., Williamston, S. C., is constructing a new warehouse estimated to cost $200,000. The warehouse will connect the existing weaving plant with a newly planned acetate weaving plant that will be constructed in the near future. Daniel Construction Co., Greenville, S. C., is the contractor.

Towne Processing Co., Philadelphia, Pa., has completed the installation of new novelty-yarn twisters replacing all older machines.

Zelta Corp., New York, N. Y., has doubled the production of its nylon Pompadour yarn.

THE MASON SILK CO., Winsted, Conn., recently completed its third major expansion in five years. The new modern brick and steel plant, containing 16,000 sq. ft. of floor space, will house the latest throwing and processing equipment. The expanded research and engineering departments will be located here.

News About **MILLS** (Continued)

Knitting Mills

Benwood Corp., New York, N. Y., has been formed as a tricot-knitting firm. Alfred C. Werner is president. Location and equipment of plant has not been announced. Richard F. Eshleman will be in charge of manufacturing and plant operation.

Binstron, Inc., of New York, has been chartered in Martinsburg, W. Va., under the name of Jefferson Corp. Company has rented a building in Martinsburg. Jersey-knit underwear will be manufactured when operations get under way.

Boyd Lee Hosiery Mills, Inc., Hickory, N. C., will be enlarged by an addition to the present building that will provide 10,000 sq. ft. of additional floor space. The company plans to purchase additional machinery soon.

Claussner Hosiery Co., Inc., Paducah, Ky., has purchased six additional 60-gauge full-fashioned knitting machines, which are being installed. The estimated cost is approximately $250,000.

Danville Knitting Mills, Bon Air, Ala., has changed its name to Danville Yarn Mills. The mill is part of the organization of Danville Knitting Mills, Danville, Va.

Georgian Hosiery Mills, Ltd., has completed the transfer of its equipment from Owen Sound, Ont., to the company's new base of operations in Durham, Ont. The firm is located in the former plant of Huck Glove Co.

Glen Raven Mills, Glen Raven, N. C., has begun operations in its new plant. Eight Reiner 168-in., 32-gauge machines have been installed.

Gotham Hosiery Co., Inc., New York, N. Y., has begun limited production in its branch plant at Reading, Pa. Women's nylon-tricot lingerie will be manufactured. John L. Butcher has been named as manager of the Reading plant, and Gordon Otis is superintendent of operations.

Her Majesty Hosiery Corp., New York, N. Y., is erecting a 15,000-sq. ft., one-story mill at Bethel, N. C., to produce full-fashioned nylon hosiery. The construction will be completed about Aug. 1. The plant will be equipped at the start with four Kalio automatic-welt machines, 32-sections, 60-gauge. The building will be air-conditioned and have fluorescent lighting throughout.

Hi-Mac Hosiery Mills, Lexington, N. C., has been incorporated in North Carolina. The authorized capital is $100,000. Elma Yarbrough, Vetal Yarbrough, and J. B. Going, all of Lexington, are the incorporators.

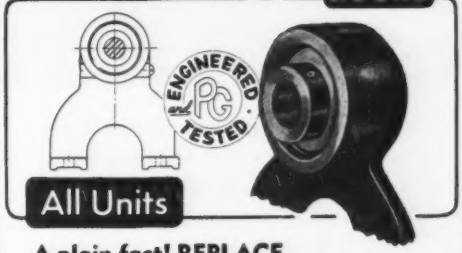
Julius Kayser & Co., New York, N. Y., has purchased Naigai Kabushiki Kaisha, Tokyo, Japan. Products bearing the Kayser brand name will be made there and distributed from there under the auspices and supervision of Kayser. Naigai manufactures full-fashioned silk hosiery, circular knit socks, Argyle socks with part hand work, and plain and fancy cotton knit gloves and is beginning the manufacture of cotton underwear from fabric knit on circular machines. Naigai owns a large silk-throwing plant, a dyeing and finishing plant, and the controlling interest in a rubber-yarn plant.

Magnet Mills, Inc., Clinton, Tenn., is closing its Lake City, Tenn., plant and the knitting department will be moved to the main plant at Clinton. The seamless production is done at the Lake City mill. Machines at Lake City will be moved to the basement of the Clinton mill, which is now being equipped with air conditioning.

Paw Creek Hosiery Mills, Inc., Paw Creek, N. C. has begun operations on misses' and men's hosiery on newly installed machinery that was purchased from Morris Speizman Co., Inc., Charlotte, N. C.

R. C. O. T. Knit Co., Sherbrooke, Que., is to occupy a one-story building, 110x60 ft., which will be erected in the Collinsville industrial area of Sherbrooke by the city of Sherbrooke. The building will be of brick and concrete-block

Ball Bearings IN 24 HOURS



A plain fact! REPLACE with PG Bearings – and SAVE!

You're right! "PRECISION originated them"—practically every ball bearing unit you'll see in Spinning and Twisting . . . making Plain Bearings generally obsolete . . . saving the Textile Industry untold millions in power and production—through improved efficiency, longer life, less noise, vibration and maintenance. Replace plain bearings—and SAVE! Call PRECISION—the pioneer and the producer of Textile's most complete line of Ball Bearings units—most of them in stock—for 24 hours service. Or, ask for our Sales-Engineer.

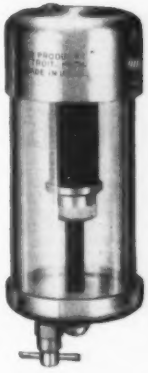
Engineers : Manufacturers — Cams · Bearings : Gears : Chain Drives
DIVISION OF TURNER MANUFACTURING CO.

PG Ph. 4-6857

PRECISION GEAR AND MACHINE CO.
2001 North Tryon St., Charlotte, N.C.
THE SOUTH'S LARGEST MANUFACTURER OF GEARS AND CHAIN DRIVES

Do You Have WATER, DIRT OR SLUDGE IN YOUR AIRLINES?

This New M-B AUTOMATIC AIR LINE FILTER



is equipped with RIBBON TYPE FILTERING ELEMENT . . . Removes solids 10 microns (.00039) and larger. It is a radical departure from general practice, bowl being a transparent plastic. Consequently all foreign matter filtered from the airline is clearly visible, eliminating guess work as to when filtering element should be cleaned or bowl drained . . . . . There is NO WATER, DIRT OR OIL in compressed air that has passed through this filter . . . This piece of equipment gives maximum protection to air-operated controls on Slashers and Humidifiers, also Blow-off of the Knotting Device on Barber-Colman Spoolers, also Abbott Winders and Blow-off hoses in Weaving and Spinning Rooms . . . This new Filter affords our "Amoskeag" Pneumatic ROLL PICKER, Model A.V.T.A., or similarly operated equipment, maximum protection.

Representatives in all textile centers

M·B PRODUCTS
46 Victor Ave.
Detroit 3, Michigan, U.S.A.

COMPARE

the processing of nylon, silk and rayon yarns anywhere with the way we do it now—and have been doing it for nearly sixty years. A careful comparison always seems to mean a new Heineman customer. You might be our next one. We invite comparison.

OSCAR HEINEMAN CORPORATION
Division of Aetna Industrial Corporation
DONALD G. BREWSTER, *President and General Manager*
Processors of Nylon, Orlon, Dacron, Silk, Rayon and Other Synthetic Fibers
3701 ARMITAGE AVENUE, CHICAGO 47, ILLINOIS
SALES AGENTS
C. D. GOTT CO. • 1001 Provident Bldg. • Chattanooga, Tenn. • Tel. 7-8879
THOMAS C. ASSHETON CO. • 11 West 42nd St. • N. Y. 18, N. Y. • Tel. PE 6-8280
FRANK LUNDAY • P. O. Box 1154 • Charlotte, N. C. • Tel. Charlotte 8100

YOU CAN ELIMINATE ALL STATIC

WITH THE HERBERT

Oxy Neutralizer "Cold" Bar

NO ARC!
NO SHOCK!
NO SPARK!

Now you can remove instantly, simply and safely static charges on all textile fibres, slivers, roving, yarns and fabric. This means the elimination of a costly production handicap. A HERBERT OXY COLD BAR attached to the machine on which you are experiencing static interference . . . and presto your troubles are over. You will get unbroken card slivers . . . no flying ends . . . no sticking. Your machines will handle material of any fibre smoother, easier and faster. Beat high production costs by curing "static expense".

Send us details of your static problem. We will submit recommendations without obligation. Brochure on request.

HERBERT PRODUCTS Inc. 74-37 JAMAICA AVE. WOODHAVEN 21, N. Y.

News About **MILLS** (Continued)

construction, with steel frame. It will have hot-water heating. The architect is Alphonse Belanger, 16 Rue Vimy, Sherbrooke.

Simplex Textiles, Prescott, Ont., plans to spend $50,000 for the expansion and improvement of its plant, particularly the finishing department. Three-bar tricot machines have been installed in the knitting department to produce ripple-tuck material and fluted net.

Springdale Mills, Perth, Ont., recently installed four additional knitting machines which bring the total to 16. E. Wettengel is the plant superintendent. Many renovations, including a cafeteria, have been made to the plant.

Dyeing & Finishing Plants

Corbal Industries, 262 Main St., Paterson, N. J., has been incorporated to dye, print, and bleach fabrics.

Collins & Aikman Corp., Bristol, R. I., plans to add a $400,000 fine-goods finishing department to its Bristol plant. Completion is expected in October.

Collins Yarn Processing Co., Hickory, N. C., is the new name of the plant formerly known as the Hickory Yarn Processing Co. Charles R. Collins is the president. A new automatic cop winder has been installed, and two more have been ordered. The package-dyeing facilities have been doubled.

Cranston Print Works will increase the capacity of its Fletcher, N. C., printing plant from 180,000 to 200,000 yd. daily by the end of 1952. This 20% increase in the plant's output will not affect company's operations in Cranston, R. I.

Delta Finishing Co., a division of J. P. Stevens Co., Inc., Wallace, S. C., is installing machinery in its recently completed one-story addition to the mill. The new addition will be devoted to the finishing of tricot fabrics.

Franklin Processing Co., Philadelphia, Pa., has let the $25,000 contract for the construction of a one-story, 20x44 ft. addition to its laboratory building to George H. Evans, 1914 Spring Garden St., Philadelphia.

Kelly Dyeing & Finishing Co., Charlotte, N. C., has installed additional preboarding equipment which will increase production by about 1,500 doz. pr. of hosiery per week.

Rock Hill Printing & Finishing Co., Rock Hill, S. C., will construct a two-story addition to mill. Potter & Shackleford Construction Co., Greenville, S. C., is the contractor.

S. & W. Dye Works, Inc., Philadelphia, Pa., has sold the remaining portion of its company which was not merged with Walter E. Knipe & Sons, Inc., Philadelphia, to Charles R. Lachman and Lillian Z. Lachman for $135,000. The building contains 42,500 sq. ft. of floor space.

Windsor Print Works, a division of Consolidated Textile Corp., North Adams, Mass., will transfer a substantial part of its operations to the South. Equipment will be installed in plants at Lynchburg, Va., and Shelby, N. C.

Foreign Mills

Crescent Jute Mill Co., Karachi, Pakistan, has been formed by the government in a partnership with the Aga Kahn, Ralli Bros., and James Kackie Sons. The plant, which will contain 500 looms, will be set up in Daulatpur. Production will get underway in 1954.

Societe Misr pour la Rayonne, Kafr-el-Dawar, near Alexandria, Egypt, is proceeding with the construction of an addition. The new addition will permit the company to produce 4,000 tons of rayon annually. The company is considering production of rayon crepe yarn.

Textiles Nacionales, Quito, Ecuador, a recently established company, has installed equipment for cotton-yarn production. Plant manager is Abraham S. Handal. The capital, in terms of dollars, is about $305,555.

NEWS ABOUT *Men*

William A. Newell Joins N. C. State

William A. Newell, managing editor of TEXTILE WORLD, has resigned that position to become coordinator of research at the N. C. State School of Textiles.

Bill joined the TEXTILE WORLD staff as assistant editor in New York in 1947 upon graduation from N. C. State. In 1949, he became managing editor, in which position he has served faithfully and competently since. Many of the improvements readers have noticed in the editorial pages of TEXTILE WORLD since 1947 were sparked by Bill, and readers are well familiar with the many fine articles and editorials that have appeared under his name.

The sincere best wishes of the TEXTILE WORLD staff go with Bill, and we are happy to announce to his and our friends that he will still be a valued member of the TW staff in the capacity of consulting editor.

P. M. Thomas
Editor-in-Chief

Albert Appleby has resigned as superintendent of the National & Providence Mills of American Woolen Co., Providence, R. I.

William Argo has been named general manager of Stylewise Mills, Inc., plant at Carrollton, Ga. Prior to joining Stylewise, Mr. Argo was with the Princeton Knitting Mills, Waterbury, Conn.

T. Scott Avary has been elected to the newly created position of vice president in charge of finance at West Point Mfg. Co., West Point, Ga.

J. Penfield Barker has become superintendent of the Brown Mills of American Woolen Co., Dover-Foxcroft, Me. He was formerly with Wyandotte Worsted Co., Waterville, Me.

G. R. Baskwill has been named general manager of Saskatchewan Wool Products, Moose Jaw, Saskatchewan, to succeed **W. A. Pullen**, who has resigned.

E. Allen Bentley, formerly superintendent, has been named general manager of the Swift Mfg. Co., Columbus, Ga.

Mark Braniff has accepted a position as overseer of dyeing at Packard Mills, Webster, Mass.

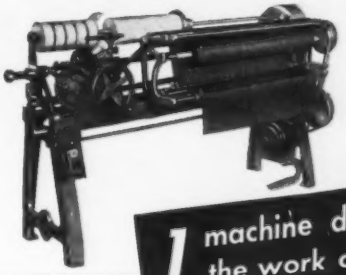
William J. Brooks, formerly assistant to **A. U. Priester, Jr.**, the vice president and general manager of the HDV Div. of Callaway Mills, LaGrange, Ga., has been promoted to assistant superintendent of Callaway Mills dye plant at LaGrange.

Henry L. Buchanan, superintendent of Oconee Mills, Westminster, S. C., has resigned to head the industrial-engineering department for all plants of M. Lowenstein & Sons. He will make his headquarters at Anderson, S. C.

E. A. Buthman has resigned as superintendent of dyeing at the Wood Worsted Mill of

CHARLES F. H. JOHNSON, JR., has been named president of Botany Mills, Inc., Paterson, N. J., succeeding his father, the late Col. Charles F. H. Johnson. Mr. Johnson has been vice president and general manager of Botany since 1945.

UTICA Combination Winding and Cutting Machine



1 machine does the work of 2

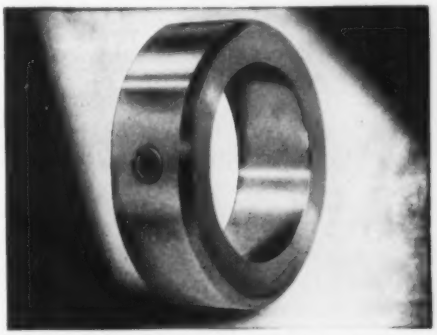
THIS fast-producer has all the advantages of two machines, but uses the floor space of just one. Cuts light, medium, or heavy weight, both straight and bias fabrics. Cutter and Winder can be run at the same time. Rigidly constructed for long, trouble-free operation. Has measuring scale for cutting accurate rolls. It's safe — knife, grinding wheel, all gears and sprockets are well-guarded. Equipped with Veeder Root yardage counter. Made in 40, 45, and 55 inch width machines. Make your own bindings — as you need them — from the same material as your product — at lower cost. Write today.

UTICA

NOVELTY AND MILL SPECIALTY CO.

2145 DWYER AVE., UTICA 2, NEW YORK

Builders of Textile Machines Since 1903



Standardize on standard HALLOWELL SOLID STEEL COLLARS

It's fast and easy to buy standardized, precision-made HALLOWELL Solid Steel Collars from your distributor's stocks. Just pick up the telephone and place your order.

42 stock sizes—for shafts from 5/16" to 3" inclusive—are positioned on the shafts by UNBRAKO Self-Locking Set Screws, the screws that won't work loose.

Write for descriptive literature and the name and address of your nearest HALLOWELL Industrial Distributor. STANDARD PRESSED STEEL Co., Jenkintown 35, Pennsylvania.

HALLOWELL
POWER TRANSMISSION DIVISION
SPS
JENKINTOWN PENNSYLVANIA

For more information, write direct or use Reader Service post card. 261

THE AMERICAN
YARN & PROCESSING COMPANY
and
EFIRD MANUFACTURING COMPANY
announce their merger

SUCCESSOR CORPORATION:

AMERICAN & EFIRD MILLS,
INCORPORATED

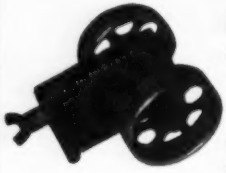
HOME OFFICE: *Mt. Holly, North Carolina*

SALES OFFICES:

New York, N. Y. — *Chattanooga, Tenn.*
Philadelphia, Pa. — *High Point, N. C.*
Chicago, Ill. — *Albemarle, N. C.*

LOCKWOOD GREENE
ENGINEERS-ARCHITECTS
for the
Textile Industry
10 ROCKEFELLER PLAZA · NEW YORK 20, N.Y.
BOSTON 9, MASS. 40 Central Street
SPARTANBURG, S. C. Montgomery Bldg.

"YOU CAN COUNT ON WAK COUNTERS"



They are
RUGGED
ACCURATE
DEPENDABLE

We build single, double and triple pick counters; yardage, rotary, ratchet and special counters.

Write—Phone—Wire

WAK INDUSTRIES
CHARLOTTE, N. C.

News About MEN

(Continued)

American Woolen Co., Lawrence, Mass. Mr. Buthman is now with Bolta Co., Lawrence, Mass.

Stacy B. Carson has resigned as manager of Plant No. 3 of Delta Finishing Co., Wallace, S. C.

Leo J. Clavin has resigned as superintendent of Malden Spinning & Dyeing Co., Inc., Malden, Mass.

William A. Coolidge has been elected to the board of Pepperell Mfg. Co., Boston, Mass., succeeding his brother, the late **Amory Coolidge**. Mr. Coolidge is president and a director of New Enterprises, Inc., Boston, Mass.

Jerome T. Collins has been elected a vice president of Mock, Judson, Voehringer Co., Greensboro, N. C. He will be in charge of mill operations of the firm. Mr. Collins was formerly personnel manager and superintendent.

Marshall S. Delavan has been appointed controller, and **Paul E. Casey**, secretary, at Alexander Smith, Inc., Yonkers, N. Y. Mr. Delavan was formerly assistant controller of Burlington Mills Corp. Mr. Casey has been with Alexander Smith for 11 years.

W. Raymond Dixon has been appointed general superintendent of the Raleigh Mills of American Woolen Co., Raleigh, N. C.

Martin C. Dubman and **Robert C. Baker** have been elected to the board of directors at Bell Co., Worcester, Mass. Dr. Dubman is the president of Miron Mills, Inc., and a vice president of Bell Mills, Inc., New York. Mr. Baker is the vice president of both companies.

James R. Duncan has resigned as assistant treasurer of Chicopee Mfg. Corp., New Brunswick, N. J.

George E. Fogel, Jr., has been named general manager of Lowell Bleachery South, Griffin, Ga. **Ralph Dorsey** has been named assistant to the general manager. **A. T. Henninger** former manager of New York office, has been named vice president in charge of sales.

W. B. MCGUIRE, materials-handling engineer for Werner Textile Consultants is now located in the New York City office of the firm after returning from three years work in Canada. Mr. McGuire is the inventor of the yarn-handling system at Avondale Mills, described in TW, June, 1952. He also holds patents on the waste carousel and was the designer of one of the first mechanical lap-handling installations.

James Fitzroy has resigned as overseer of finishing at Geneva Mill of Wanskuck Co., Providence, R. I. **Robert D. Rainville** has been named to succeed Mr. Fitzroy.

J. O. Elsmore has been named superintendent, of the Clarksville Mill, division of United Merchants & Manufacturers, Inc., Clarksville, Ga. Other appointments include **W. R. Brown**, overseer of preparation; **J. W. Bush**, overseer of throwing; **F. J. Frey**, production manager; **Lewis Hallford**, personnel manager; **G. A. Jarrad**, cloth room overseer; **Lonnie Long**, master mechanic; **H. C. Mangun**, overseer of weaving; **E. A. Rambow**, office manager.

C. Ralph Ewing has been elected executive vice president of the Dixie Mercerizing Co., Chattanooga, Tenn.

Paul Gaffney has been promoted from assistant superintendent of weaving to the general superintendent of weaving at Orr Mills and Limestone Mills, Gaffney, S. C.

Wallace Goldstein has been named a vice president of Martha Mills, Inc., Asheboro, N. C.

Harvey B. Greene has been appointed secretary and treasurer of National Automotive

News About **MEN** (Continued)

Fibers, Inc., Detroit, Mich.

E. Lee Griggs, spinning supervisor for the Works Technical Section of E. I. du Pont de Nemours & Co., Waynesboro, Va., has been transferred to the nylon plant of the company at Chattanooga, Tenn.

P. Huber Hanes, Jr., has been promoted from vice president in charge of manufacturing at P. H. Hanes Knitting Co., Winston-Salem, N. C., to executive vice president. Mr. Hanes succeeds **Thomas D. Meriwether**, who retired after 21 years with the company.

George Hauptfuhrer has been named a director and secretary of Oscar Nebel Hosiery Corp., Staunton, Va. He succeeds the late **Harry S. Mesirov**.

Harry Hodge has been appointed controller of American Woolen Co., New York, N. Y., succeeding **George E. MacLellan**, a vice president, and controller since 1933. Mr. MacLellan will devote his full time to the duties of vice president.

George H. Jackson, formerly a vice president, has been elected president of Powdrell & Alexander, Inc., Danielson, Conn., succeeding **Brainard T. Webb**, who resigned.

W. E. Jackson has been appointed plant manager of Verney Corp., West Peterborough, N. H., succeeding **Nelson Barlow**. Mr. Jackson was previously superintendent of finishing with Pinatel Piece Dye Works, Joliette, Quebec.

William R. Johnston, who resigned as superintendent of Somersville Mfg. Co., Somersville, Conn., has been named superintendent of the Atlantic Mills of A. D. Juilliard & Co., Inc., Stottville, N. Y. He succeeds **Ed Silk**, who has resigned.

T. W. Jones has been named assistant to the superintendent of weaving at Mooresville Mills, Mooresville, N. C. Mr. Jones was formerly superintendent of weaving at Robbins Mills, Aberdeen, N. C.

Walter D. Jones has retired as treasurer of Utica Knitting Co., Utica, N. Y. **John S. Van Vleit**, assistant treasurer and secretary, has been named treasurer.

ROBERT O. BRADLEY has been named industrial engineer of the Fiber Glass Div. of Libbey-Owens-Ford Glass Co., Parkersburg, W. Va.

Joseph L. Lanier, president of West Point Mfg. Co., has been elected chairman of the board of Wellington Sears Co., New York. **William W. Lufkin**, who has been a vice president since 1950, was elected executive vice president of the company.

Leo Lescouarnec has become plant superintendent of Pinatel Piece Dye Works, Joliette, Que.

Earl S. Liberty has resigned as the vice president and treasurer of Utica & Mohawk Div. of J. P. Stevens & Co., Inc., Clemson, S. C. His future plans have not been announced.

Joseph Lizotte has become superintendent of Chauvin Spinning Co., Woonsocket, R. I. He was formerly with Somerville Mfg. Co., Somerville, Conn.

Saul Ludwig has resigned as a vice president of Barbet Mills, Inc., Lexington, N. C.

George D. McConnell has been elected president of Munsingwear, Inc., Minneapolis, Minn., succeeding **Coy C. Humphrey**, who was elected chairman of the board and chief executive officer. Mr. Humphrey succeeds **Harry C. Piper** who will continue as a director and a member of the executive committee.

Joseph E. Mee has been appointed general manager of John Alden Woolen Mills, Inc., Worcester, Mass. **Louis Martinez, Sr.**, has been named

STRENGTH!
PRECISION!
LIGHTNESS!

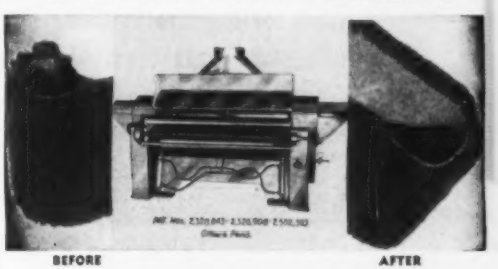
Spools and bobbins are the most abused tools in the industry. Akron Spools are custom engineered to take it! One look tells you why.

We will gladly show how well Akron Spools are holding up in the world's largest mills. Drop us a card!

AKRON SPOOL AND MFG. CO.
Box 142 Cuyahoga Falls, Ohio

FURTEX *FOR FINER*

"IMITATION FURS"



BEFORE **AFTER**

FILL THE POPULAR DEMAND—
GET AMAZING RESULTS!

Now you can produce better "imitation furs" with FURTEX — a machine and process offered by a leading maker of fur machinery.

The Furtex is an electrifying machine for finishing High Pile and other pile fabrics of wool, dynel, rayon, other synthetic fibres.

This machine, plus chemicals, produces a lasting fur-like appearance with high lustre. Results assured.

We also make a wetting applicator and shearing machine used in the finishing process.

Your inquiries will receive prompt attention.

formerly
FURTEX, INC. **FURTEX Rejuvenating Corp.**
258 East 3rd St. Mt. Vernon, N. Y.

For more information, write direct or use Reader Service post card. 263

Stainless Steel
BEAKERS & DYE POTS
FOR ALL TEXTILE & LABORATORY USE . . .

Leading companies throughout the industry are our satisfied customers

AMERICAN METAL SPINNING & STAMPING CO.
130 East 13 St.
New York 3, N. Y.

JIFFY TEXTILE MARKER

For use on rayon, cotton and woolen material.
Dye-resistant and boil-proof, permanent, inexpensive, quick and easy to use.

For information address
JIFFY TEXTILE MARKER CO.
406 W. School Lane
Philadelphia 44, Pa.

INDUSTRIAL Engineers
SPECIALIZING IN TEXTILES FOR OVER ONE-THIRD OF A CENTURY
PAYROLL CONTROLS COST SYSTEMS
SPECIAL REPORTS WORK LOAD STUDIES
COST REDUCTION REPORTS
RALPH E. LOPER CO.
GREENVILLE, S. C. FALL RIVER, MASS.

CALDWELL TANKS—
First Choice of the Textile Industry!

Caldwell offers the industry a complete tank service, including solid Stainless and Stainless-lined wood tanks and tubs, of any shape or size.
If you're thinking of installing or replacing a tank, let our 60 years' experience in building high-grade tanks serve you. *Send for our catalog, today!*
W. E. CALDWELL CO., Inc.
2060 Brook St., Louisville, Ky.
Caldwell TANKS AND TOWERS

News About **MEN** (Continued)

superintendent.

James H. Millis has been named to succeed his father, **J. E. Millis**, as the president of Adams-Millis Corp., High Point, N. C. Mr. Millis, Sr., will remain with the firm as chairman of the board.

Albert G. Myers, Jr., has been elected assistant vice president of Textiles, Inc., Gastonia, N. C., to succeed the late **W. T. Rankin, Jr.**

Clarence L. Nutting, who resigned as research engineer for Arlington Mills, Lawrence, Mass., has accepted a similar position with Pacific Mills, Lawrence, Mass.

William Alfred Pearson has been appointed assistant superintendent of Riegel Textile Corp., plant at Ware Shoals, S. C., succeeding **George Taylor**, who resigned.

William E. Perry has resigned as a vice president and treasurer of Scranton Lace Co., Scranton, Pa. **Charles R. Bryant** was elected treasurer.

James C. Platt has retired as vice president and manager of Chicopee Mfg. Corp. of Georgia, Gainesville, Ga.

C. N. H. Remick has been elected a director and vice president of Forest City Knitting Co., Ltd., London, and Glencoe, Ont. **Warren A. Cook** has been named treasurer and a director; **W. H. Scott** has been named secretary and a director.

William P. Saunders, executive vice president of Robbins Mills, Robbins, N. C., has been elected president succeeding **Edward A. Werner**, resigned. Other appointments include **Karl Robbins**, chairman of the board; **Adolph Bleiman**, vice president.

George E. Schofield has been appointed assistant resident manager of Rayonier, Inc., division at Fernandian, Fla. Mr. Schofield was formerly chief chemist of the division.

R. D. Sheldrick has become superintendent of Baxter Woolen Co., Somersworth, N. H., succeeding **George Baxter. Harry Rhodes** has become overseer of finishing succeeding **J. Goglinski.**

William Shine has been appointed plant superintendent of Reeves Bros. plant at Bishopville, S. C. **Carry Kilgore** is personnel director and **Andrew E. Collins** is manager.

E. T. Singeton has become overseer of carding for the Ace Woolen Co., Cleveland, Ohio.

Joe L. Smith, Charlotte, N. C., has been elected a vice president of Southern Webbing Mills, Inc., Greensboro, N. C.

A. T. Spaulding has retired as head of North Berwick Co., North Berwick, Me. He has been succeeded by **George W. Gouldry**, agent and superintendent.

Raymond Steeves has resigned as overseer of dyeing and finishing at Lincolnsfield Mills Corp., Lincoln, Me.

Harry C. Templeton has been appointed vice president in charge of all production and assistant to the president of Botany Mills, Passaic, N. J.

D. G. Vander Vort has been named to the newly created post as manager of all manufacturing operations of Montreal Cottons, Ltd., Valleyfield, Que. He was formerly superintendent of the gray goods mills with this company, a position which is now held by **C. S. Jones.**

P. E. Wardwell has retired as purchasing agent of American Woolen Co. He has been succeeded by **Charles W. Frank.**

J. C. Whitt has been appointed to the newly created position of assistant superintendent in charge of dyeing at the National Plant of Standard Coosa-Thatcher Co., Chattanooga, Tenn.

Arthur Wissmer has become assistant superintendent at the Farnsworth Mill, Lisbon Center, Me.

T. Henry Wood, general manager of Oconee Mills, Westminster, S. C., and Sachem Mills, Winder, Ga., has retired. He will continue in an advisory capacity with Beacon Mfg. Co., Swannanoa, N. C., parent company of the two mills.

OBITUARY

William Beck, 84, president of Beck Bros., Inc., Hoboken, N. J.

E. Stanley Bowers, Sr., 71, vice president and treasurer of Continental Mills, Inc., Philadelphia, Pa.

Paul C. Carpenter, 59, vice president and secretary of Turner, Halsey Co., New York, N. Y. He was also president of Carhal Factors, Inc., a Turner, Halsey factoring unit.

Elisha P. Dismukes, 81, former president, chairman of the board, and secretary-treasurer of the now liquidated Georgia Mfg. Co., Columbus, Ga.

Thomas F. Francis, 72, former president of U. S. Bobbin & Shuttle Co., Lawrence, Mass.

W. M. Griffin, 55, throwing supervisor at the National Weaving Co., Inc., Lowell, N. C.

James B. Holder, 36, industrial engineer for the Excelsior Mills, Clemson, S. C.

William R. Horowitz, 64, president of American Dyeing Corp., Rockville, Conn., and of the Bellfont Dyeing Corp., Fiskdale, Mass.

Arthur Iselin, 74, a director of William Iselin & Co., New York, N. Y. Mr. Iselin was also a director of Iselin-Jefferson Co., New York, N. Y.

Robert B. Jarratt, 44, sales executive for E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.

Walter G. Keebler, former vice president and general manager of the Circle Bar Knitting Co., Ltd., Owen Sound, Ontario, Canada.

John D. Knaack, 58, recently retired from American Woolen Co., New York, N. Y., where he served as statistical secretary and assistant to Charles H. Silver, vice president.

Victor Truman MacIntosh, 53, manager of Stanfields, Ltd., branch plant in Toronto, Ontario, Canada.

Benjamin M. May, 68, retired general manager of the rayon department of E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.

William Weaver Neal, Jr., 47, president of Marion Knitting Mill, Inc., Marion, N. C.

William P. Nimnagh, 57, sales manager of the Automotive & Defense Fabrics Divisions of Sidney Blumenthal & Co., Inc., New York, N. Y.

Howell F. Nealley, 77, retired chief engineer for the Draper Corp., Hopedale, Mass.

George A. Richardson, 68, retired engineer for the Draper Corp., Hopedale, Mass.

John Lester Perry, 71, retired president of Tennessee Coal, Iron & Railroad Co. Carnegie-Illinois Steel Corp., and Columbia Steel Co. Mr. Perry also served with U. S. Steel Corp. in an advisory capacity.

Charles F. Robbins, 63, general works manager of the Markem Machine Co., Keene, N. H.

Clarence G. Rowland, a sales executive for the Fuller Brush Co., Hartford, Conn.

Ralph C. Shorey, 58, textile sales engineer for Howard Bros. Mfg. Co., Worcester, Mass.

Marvin B. Smith, 75, member of the board of Burlington Mills Corp., Greensboro, N. C. Mr. Smith was also associated with his son in the ownership of the Liberty Hosiery Mills, Liberty and Gibsonville, N. C.

Yates D. Smith, 53, president and general manager of the Smith Textile Apron Co., Gaffney, S. C.

Sylvan I. Stroock, 65, chairman of the board of directors of Stroock Textile Enterprises, New York, N. Y.

Dr. Eugene Theimer, research chemist for Standard Chemical Products, Inc., Hoboken, N. J.

Peter Van Vlaanderen, 78, founder and former president of Van Vlaanderen Machine Co., Paterson, N. J.

Harry E. Yocum, 57, superintendent of maintenance at the now liquidated Rosedale Knitting Co., Reading, Pa.

FLAT HEAD SOCKET CAP SCREWS
for assembly of THIN-SECTION MATERIALS

Maximum head contact, flush surface assembly, non-slip internal wrenching, high shear and tensile strength are features of these precision fasteners. SPS recommends *Standards*. Sizes from #4 to ¾" available from your UNBRAKO distributor's stock. Write for your copy of UNBRAKO *Standards*. STANDARD PRESSED STEEL CO., Jenkintown 35, Pennsylvania.

UNBRAKO SOCKET SCREW DIVISION SPS JENKINTOWN PENNSYLVANIA

LOWER SPINNING TAPE COSTS with
TIGER-TUF Spinning Tape

- Assures Top Spindle Speed
- Lower Tape Cost Per Spindle
- Very Low Stretch Factor
- Double Herringbone Weave

Compare Tiger-Tuf with any other tape. Compare quality—compare costs. You'll want to equip all of your frames with dependable TIGER-TUF. Write today for details.

Immediate Delivery in the following widths
1/2" 9/16" 5/8" 11/16" 3/4" 13/16"

COLEMAN CO., Inc.
POST OFFICE BOX 1351
GREENVILLE, SOUTH CAROLINA

CLASSIFIED SEARCHLIGHT SECTION ADVERTISING

EMPLOYMENT • BUSINESS • OPPORTUNITIES • EQUIPMENT—USED or RESALE

UNDISPLAYED RATE:
$1.20 cents per line, minimum—3 lines. To figure advanced payment count 5 average words as a line.
POSITION WANTED AND INDIVIDUAL SELLING OPPORTUNITY undisplayed advertising rate is one-half of above rate, payable in advance.
PROPOSALS, $1.20 a line an insertion.

INFORMATION:
BOX NUMBERS care of publication count as 1 line additional in undisplayed ads.
DISCOUNT of 10% if full payment is made in advance for four consecutive insertions of undisplayed ads (not including proposals).
EQUIPMENT WANTED OR FOR SALE Advertisements acceptable only in Displayed Style.

DISPLAYED RATE:
The advertising rate is $12.65 per inch for all advertising appearing on other than a contract basis. Contract rates quoted on request.
AN ADVERTISING INCH is measured ⅛ inch vertically on one column, 3 columns—30 inches —to a page. T.W.

NEW ADVERTISEMENTS address N. Y. Office, 330 W. 42nd St., N. Y. 36, N. Y. for August issue closing July 17th.

MEN WANTED

POSITIONS OPEN

We can place: TRICOT MANAGERS, supts., overseers and fixers; woolen yarn supt.; two woolen mill mgrs. and supts.; sales mgr. worsteds; office mgr; asst. supt. rope mill (foreign); designer fancy woolens; asst. supt. silk and synthetic yarn fabrics; night supt. wstd. card. and comb.; chief garment designer knit. and woven goods. Two cotton yarn salesmen, one for New England and one for South.

OVERSEERS FOR FOLLOWING DEPTS.: Whitin rayon twisters; shoddy card., fin. silk and rayon fabrics; woolen card.; cotton and rayon skein dye.; nar. fab. weav.; cot. weav. Draper looms, large mill; cashmere dehairing; woolen fin. large mill; cot. warp., slash., cloth room and weav. (foreign); picking shoddy mill; cot. piece goods dyeing; sew. knit. goods; dyeing knit. goods; overseer winding. Abbott machines on synthetic yarns.

SECOND HANDS FOR FOLLOWINGS DEPTS.: woolen fin.; worsted weav.; worsted spin.; woolen card.; woolen weav.; cot. piece goods finish; worsted draw. and spin.; fancy woolen twisters; worsted draw.; woolen raw stock and piece goods dyeing; fulling and scouring knit. goods.

CHEMISTS, chem. engineers and laboratory men for mills and or selling and demonstrating; chemist for asst. supt. felt mill; asst. elec. engineer; mech. engineers; supervisor machine shop; tex. school grad.; rayon-cotton technician, (N. Y. City); cost accountants; stainless steel machy. salesman (South); dyestuffs salesman; industrial engineers and time study men; worsted dresser tenders; woolen spin. frame fixer; fixer Barber Colman spoolers warpers; card fixers; shear tenders; loom fixers; sew. mach. fixers; plush loom fixer; tricot warper.

LIST YOUR CONFIDENTIAL APPLICATION WITH US to keep informed of attractive positions open in the textile mills.

CHARLES P. RAYMOND SERVICE, INC.
294 Washington St. Boston, Mass.
Telephone Liberty 2-6547
Specialists in Placing and in Supplying Textile Mill Executives

TEXTILE TECHNOLOGIST

Recent graduate of textile college with few years experience in rayon or cotton staple spinning, to take charge of textile processing experimental department in large new rayon staple fiber plant near Mobile, Alabama. Position offers opportunity to grow with internationally known concern.

Send full particulars to:

COURTAULDS (Alabama) INC.
600 FIFTH AVENUE NEW YORK 20, N. Y.

Replies will be held in strict confidence.

DYEHOUSE SUPERINTENDENT

Experienced dyer with successful background managing the dyeing of all types of synthetic fibres in becks. Educational background in chemistry considered valuable. Northern location. Excellent opportunity in progressive company. Reply fully giving all details.

Box 680,
1474 Broadway, New York 36, N. Y.

REPLIES (Box No.): Address to office nearest you
NEW YORK: 330 W. 42nd St. (36)
CHICAGO: 520 N. Michigan Ave. (11)
SAN FRANCISCO: 68 Post St. (4)

POSITIONS VACANT

MASTER MECHANIC familiar with Cotton Mill work, year-round employment. Must be able to supervise Machine Shop, electrical work, automatic gas fired steam boiler. It would be to an advantage if familiar with Raw stock and Package dye equipment. Location West Tennessee. P-4482, Textile World.

TEXTILE FINISHING Chemist. Central research laboratory of large chemical company located in New York area requires man, PhD Organic, minimum of three years mill experience in textile resin finishing. Must have supervisory ability and proven interest in research and product development. P-4426, Textile World.

POSITIONS WANTED

MAN 29, Textile College graduate, majored in Fabric Manufacture and Designing. Weaving Mills and Office experience. Seeks Position in Weaving Mill or its office, preferably Woolen, Worsted, Cotton. PW-4527, Textile World.

TEXTILE EXECUTIVE AVAILABLE

American, highly experienced, manufacturing, Research, Yarn and Fabric Development, Cotton, Wool and Worsted sytems, Synthetics including the new fibers. Long employed large, diversified successful Southern mill group with mutual satisfaction, desires change for larger opportunity. Remuneration expected substantial; however would bring processing knowledge, strength in product development and styling to assure salary good investment.

PW-4682, Textile World
330 W. 42 St., New York 36, N. Y.

POSITIONS WANTED

OFFICE MANAGER assistant treasurer. Twenty-five years experience with Northern mills seeks position in South. References. PW-4630, Textile World.

RAYON-NYLON-Silk Throwster, desires position in supervisory capacity. Capable assuming full responsibility, training own help in all throwing depts., establishing piece work rates, throwing cost reports, etc., forward thinking, modern practice in all phases of throwing, married, references. PW-4270, Textile World.

BUSINESS OPPORTUNITY WANTED

Start Venetian Blind Laundry.
Profitable lifetime business. Part or full time occupation. New machine. Free booklet. L. X. Co., 101 S. 44th St., Philadelphia 4, Pa.

Mechanic Wanted

Experienced with Brinton or Supreme wheel work. Top salary.

WARREN FABRICS CO., INC.
West Warren, Mass.

CONFIDENTIAL COUNSELLING
In All Employment Categories
$5,200 - $50,000
To EMPLOYER and EMPLOYEE
NATIONAL COVERAGE
Please write briefly outlining your specific experience or personnel needs.
EMPLOYMENT COUNSEL
Suite 500 7 W. Madison St.
Chicago 2, Ill. Financial 6-2107

WANTED

Additional Wanted Advertising on the opposite page

TEXTILE PLANT WANTED: We are now manufacturing over $20,000,000 in various lines and wish to expand by acquisition of assets or stock of one or more industrial companies. In our negotiations the seller's problems and wishes will receive full consideration. Present personnel will normally be retained.
Address all replies
"Confidential" C. J. GALE, Sec.
733 Broadway, N. Y. 7. N. Y. BA 7-1819

Professional Services—page 275

LIQUIDATION SALE

LAND • BUILDINGS • WATER RIGHTS • MACHINERY & EQUIPMENT

PERENNIAL DYE & PRINT WORKS

WEST WARWICK, R. I.

REAL ESTATE: 186,000 sq. ft. Floor Space—Mill Brick Construction—27 Acres—Valuable Water Rights—2250 H. P. High Pressure Boilers—3 Turbo Generators.

DYEING EQUIPMENT: 21 Stainless Steel Dye Becks—Boil-Off and Scouring Units—Dye Padders—Embossers—Desizers—Extractors—Loop Dryers.

PRINTING EQUIPMENT: 12 Rice Barton Print Machines — 8 Agers — 8 Blanket Washers — Hydraulic Forcing Jacks — Print Padders — Color Shop Equipment — Roller Polishing Lathes.

COPPER PRINT ROLLERS: 5000 W-Bore Copper Print Rollers—44' to 50" Face with Patterns and Designs.

FINISHING EQUIPMENT: 7 Tenter Frames, 40' to 90'—Copper Can Dryers—Loop Dryers—Stainless Steel Print Washer — Calenders — Decaters — Palmers — Quetsches — Tubers and Doublers—Beamers—Winders—Examiners.

MISCELLANEOUS: Machine Shop — Carpenter Shop — Office Furniture and Equipment—Factory Trucks—Stainless Steel Pails—Sewing Machines—Time Recording Clocks—Steel Lockers—Storage Tanks—Piping—Motors.

Representative on premises daily. ***Write for illustrated catalogue.***

PERENNIAL DYE & PRINT WORKS

WEST WARWICK, R. I.

Plant Tel. No.: Valley 1-4200 **N. Y. Tel. No.: Wisconsin 7-0963**

WANTED

Tricot Manufacturer
is looking for a
SAMPLE TRICOT MACHINE
2 or 3 bar, preferably a 3 bar, about 30 inches wide.
W-3306, Textile World
330 W. 42 St., New York 36, N. Y.

Wanted To Buy
KLAUDER WELDON SKEIN DYEING
All stainless steel. 125 lb. or 250 lb. capacity complete with sticks.
W-4614, Textile World
520 N. Michigan Ave., Chicago 11, Ill.

WANTED
FOSTER #12
or Similar Winder
State lowest price, age and location.
W-4538, Textile World
330 W. 42 St., New York 36, N. Y.

WANTED:
Used Seriplane Reeling Machine and boards for yarn inspection purposes. Write price and location.
W-4665, Textile World
330 W. 42 St., New York 36, N. Y.

WANTED
To Expedite Production Machinery
- including Carding Machines, Spinners, Automatic Looms, Slashers, S/S Dyers, Extractors, Calenders, Clip & Pin Tenters, Dry Cans, Multi-color Presses.

Will consider set up plant now operating or shut down. When offering give full particulars.

P. O. Box 1351
Church Street Sta., New York 8, N. Y.

DYESTUFFS
Will buy your surplus and obsolete dyes and chemicals for cash.
NEW ENGLAND PRODUCTS CO.
91 Oliver St. Boston, Mass.
Established 1919

WANTED—SURPLUS
Dyes — Chemicals — Pigments
Plasticizers — Solvents
By-Products — Wastes — Equipment
CHEMICAL SERVICE CORP.
80-10 Beaver St. New York 5, N. Y.

FOR SALE
FORMER TEXTILE PLUSH MILL PLANT
- Floor area 112,000 sq. ft.—75,000 first floor space
- 625 HP Boiler capacity
- Unlimited water supply (creek and private spring fed reservoir)
- Sewage Disposal
- Low insurance rate
- Located in Swarthmore, Pa., 11 miles from Central Philadelphia

BARBER HARTMAN & CO.
Fred. H. Dietsch, Pres.
1201 Chestnut St. Phila. 7, Pa.
Rittenhouse 6-2734

RIBBON (CELLULOSE ACETATE)
BLUE
1,000,000 Yds ½" Wide
500,000 Yds ⅜" Wide
Send For Samples
PABST BREWING COMPANY
917 W. Juneau Ave.
Milwaukee 1, Wisconsin

MACHINERY LIQUIDATING COMPANY

A FEW ⟨MLC⟩ OUTSTANDING VALUES

WOOLEN MACHINERY

2—60" Shoddy Cards, D&F and James Smith
5—72" Hartmann 3-cyl. Card Sets with auto. feeds, Broad band inter. feeds and tape condensers
3—Sets of 53" and 65" wide Schimmel 3-cyl. Cards with auto. feeds and tape condensers
1—Stokes Fibre Cutter
1—36" Chenille Cutter
1—72" P&W Springfield Cloth Doubler
1—100" Birch Bros. Doubling and Tacking Machine, mtr. dr.
2—8' Sargent Cone Dusters, used in tandem
1—48" Atlas #1 Picker Feeder
1—60" Sargent Model N Picker Feeder
1—60" James Smith 3-cylinder Garnett with breast
1—72" Furbush Card Grinder
1—Napper Roll Grinder
2—80" D&F 20-roll Knit Goods Nappers with motors and drives
1—48" Goddard Burr Picker
1—40" Curtis & Marble Fearnaught Picker
1—36" James Smith Mixing Picker
1—Dodge Rag Picker
5—65", 80" and 92" Gessner and Voelkner Rotary & Double Bed Presses
10—Foot Power Piece End Mill Sewing Machines
1—50' Straightaway Pin Tenter Frame, 66" opening, complete
5—76", 78", 82", 92" and 96" D&F Warpers with compressors
1—100 sp. Foster Model 101 Winder

MISCELLANEOUS EQUIPMENT

10—42" Draper Model X 16 h. Looms, mtr. dr.
30—44" Draper Model K 20 h. Looms, mtr. dr.
47—44" Draper Model D 16 h. Looms, Hunt spreaders, mtr. dr.
60—44½" Draper Model E 16 h. Looms, mtr. dr.
48—46" Draper Model D 16 h. Looms, Hunt spreaders, mtr. dr.
1—100 sp. Abbott 1947 Automatic Quiller 72 spindles of Whitin Schweiter Auto. Quillers. Type MS
1—66" Johnson 3-cylinder Slasher
1—66" Johnson 5-cylinder Slasher
1—Terrell 1949 Type L Bobbin Stripper with compressor
1—84" Sipp Eastwood Warper with magazine creel
144—54" R.S. C&K S-3 2x1 Looms, 20 h.
5—45"-50" 2 and 3 roll Padders
1—75" Textile 3-roll Mangle
1—Hurricane 2-compartment Dryer complete with 4 tray trucks
8—19" to 60" Tolhurst and Hercules Extractors
3—Sets Dry Cans; 35—108" Copper; 9—50" and 7—50" tinned iron
1—65" 3-roll Calender, top roll Chromium plated heated, center roll (new paper), bottom roll chilled iron heated
1—45" Sturtevant motor driven Blower
1—52" C&M Flat Folder

ALSO MANY OTHER GOOD ITEMS

WANTED—GOOD SURPLUS TEXTILE MACHINERY OF ALL TYPES

MACHINERY LIQUIDATING COMPANY

A Dealer of Recognized Reliability—Domestic & Export

NEW YORK OFFICE—33 W. 42nd Street, New York 36, N. Y. Phone: Pennsylvania 6-8014
CHICAGO OFFICE—224 So. Michigan Ave., Chicago 4, Ill. Phone: Harrison 7-7140
WAREHOUSE—Hawthorne, N. J., 4th Ave. Phone: Hawthorne 7-4380

SPECIALISTS IN SELLING AND PURCHASING TEXTILE MACHINERY, ACCESSORIES AND MILL SUPPLIES

140—Draper XD looms 64" cloth, 1946
280—Draper XD looms, 46' cloth, 1946
100—C&K looms, 40", 4x1 dobby
18—C&K looms C4, 76" cloth, 1946
24—C&K looms S6, 52", 1947
4—Nottingham Lace Looms 6 pt, 324"
1—Sipp Eastwood Hi Speed Warper & Creel
1—Johnson Slasher, 7 drums, 60", 1942
200—Draper E 40" looms, M.D.

MILLS FOR SALE

COTTON SHEETING MILL, 20,000 spdls, 200 looms
JACQUARD PLUSH MILL, 100 looms
SMALL DYE PLANT, 14 Jiggs
LARGE BOX & JIGG DYE PLANT
MODERN RAYON WEAVING MILL

2—Kitson Single Process Pickers, 2 beaters
60—Whitin 40" cards, 27" doffers, 12" coilers
1—Butterworth Pin Tenter Frame 80' long x 90" w/Proctor & Schwartz 40' Housing. Age 1948
1—Mercerizing Range 60' long x 60" w/stainless steel Flexreel
1—Butterworth Swing Tenter Frame 90' long x 50"
1—Van Vlaanderen Tenter Frame 120' long x 64" w/Nat'l Housing 20 fans, Age 1950
1—Van Vlaanderen Hydraulic Calender 65", 10 ton
2—Hinnikens Boil-Off Ranges 66" wide x 24' long, 1949.
10—Morrison S.S. Dye Jiggs, 60" wide
4—Van Vlaanderen Duplex Stainless Steel Dye Becks, 6' wide
2—Nat'l Loop Dryers, 44' long, 83" sticks, 14 fans, Age 1947

1—Textile Print Machine, 12 colors, 48" wide
2—Rice, Barton & Fales Print Machine, 8 colors, 50"
1—Rice, Barton & Fales Print Machine, 7 colors, 45"
1—Rice, Barton & Fales Print Machine, 6 colors, 48"
1—Franklin Print Machine, 8 colors, 66" wide
1—Stainless Steel Acid Ager, 16'x50"

REPUBLIC TEXTILE EQUIPMENT CO.
40 WORTH STREET NEW YORK CITY
REFINANCING • APPRAISALS • PURCHASE • SALE • LIQUIDATION OF MILL PROPERTIES

COMPRESSORS
VACUUM PUMPS
SINCE 1902

NEW
Rebuilt—Tested—Guaranteed

HUMIDIFYING COMPRESSORS
40%—60% Savings
TRY THE BEST AMERICAN REBUILTS
We Outvalue the Rest
—PROMPT SHIPMENT—

FOR RENT—ANY ONE OF OVER 200 COMPRESSORS IN STOCK

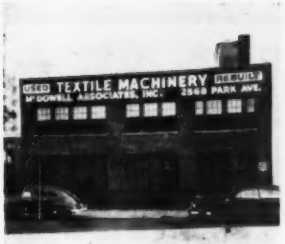
Air Receivers - Aftercoolers In Stock

AMERICAN AIR COMPRESSOR CORP.
48th & Dell Ave. No. Bergen, N. J.

FOR SALE

1—Connersville 34-tube Package Dryer
24—#50 Coners—3-30 Traverse
6—Universal #90 Coners
3—Supreme Model MJ 20" Jersey machines
1—Prosperity 48" Extractor

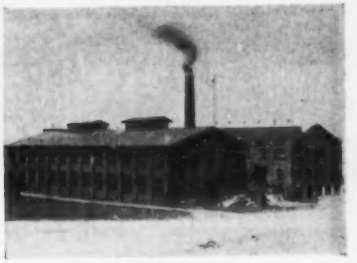
MORRIS SPEIZMAN CO. INC.
508 W. 5 St. Charlotte, N. C.



Executive Offices and New York Warehouse

McDOWELL ASSOCIATES INC.

FOR SALE



Hudson, New York Warehouse

PARTIAL LIST - - - IMMEDIATE DELIVERY

DYEING AND FINISHING

AUTO-CLAVE, COTTAGE STEAMER (steam pressure chamber) 7' Long x 38" Dia., Boiler Mfg. Co. 1947.
BRUSHES, single and 4-roll, 60"—76".
CALENDER, Hydraulic, 100 tons press., 3 roll friction type 42" wide with accumulator, M.D., Perkins 1946.
CALENDER, Hydraulic, 100 tons press., 3 roll, 60" wide with accumulator, M.D., Hinnekens 1948.
CALENDER, screw press., 3 roll friction type, 43" wide, Granger, Rebuilt.
CHINCHILLA MACHINE, 84" wide platen, with quick release cams, M.D. C.&M. Rebuilt.
DECATUR-SEMI 72" wide x 36" dia. cyl. with Nash L-4 pump, Blanket and M.D., P.&W. 1942.
DECATUR-SEMI 84" wide x 36" dia. cyl., Nash L-4 pump, M.D., P.&W. 1948.
DECATUR-SEMI (Yale type) 70" wide x 36" dia. cyl., with pump, M.D., Ernest Cessner, Rebuilt.
DEWING MACHINE 66" with rolling-up brackets and expander roll C.&M. Rebuilt.
DOUBLER AND WINDER, Schofield type 80", C&M Rebuilt.
DRYER, drum type for knitted fabrics with 9" dia. x 6' wide carrying cylinder, M.D., P.&S 1948.
DRYER & FINISHER for knitted fabrics with 7" air tube and rings for 18" to 36" dia. fabrics, Peso 1949.
DRYER, flat cloth, pin type 50" to 66" cloth, insulated housing, steam coils and fan with M.D. Hunter 1940.
EXTRACTOR 50" dia. monel basket, Rebuilt.
FOLDER 78" wide for flat folds from 18" to 42", quick adjustment hand wheel, M.D. Hacking, Rebuilt.
FOLDER silk type 42" wide jaws, adj., 1 to 1¼ yd. folds M.D., C&M (Elliott & Hall) Rebuilt.
FOLDER cotton type, 47" wide jaws, 1 yd. folds, M.D., C&M (Elliott & Hall) Rebuilt.
JIGGS, 50"—60"—80" S.S. Tanks, Rolls & Expanders, B.B. mounted.
INSPECTION MACHINE, 64" wide, inclined table and single roll Batcher Roll-up, M.D., C&M Rebuilt.
KETTLES, MIXING, 26" x 27", pumps, 7 heating coils, Rebuilt.
NAPPERS, double and single acting, 14—24 rolls, 60" to 90".
PALMER 65" with TENTER 60" x 60", S.S. clips with 9 cans 60" S.S. Van Vlaan.
PALMER-TENTER-QUETSCH for 52" cloth, Morrison.
PERCHES, Ceiling and Floor Types, various widths.
PRESS, 86 wide, 16 diameter cylinder with back brushes, steamer, back stand and rolling-up head, M.D. Voelker Rebuilt.
PRESS, 66 wide, 16" diameter cylinder with back brushes, steamer, back stand and rolling-up head, M.D. Voelker Rebuilt.
SCALE, Dial Type, 125 lb. 2 oz. graduations, platform 21" x 29" Toledo.
SEWING MACHINE, Portable Rotary, M.D. Dinsmore type with Merrow 60-D3B head, Rebuilt.
SHEARS, velvet, woolen and worsted types, single and double blades, 60" -66", Rebuilt.
SHRINKING AND LONDONIZING (Sponging Machines) 66"-80". Recent Models.
SQUEEZE SET Starch Mangle 54" wide, rubber rolls 15" dia. and brass rolls 10" dia., Rebuilt.
SQUEEZE SET, two 6" diameter rubber rolls 66" wide, M.D. Van Vlaanderen Rebuilt.
SQUEEZE SET, 3 roll 50" wide, 2 rubber and 1 brass, M.D. Van Vlaanderen Rebuilt.
TEASLE GIGS, single cylinder 62" wide for wet teasling, adjustable contacts, German make, Rebuilt.
TENTER FRAME 100' x 54" Brass Clips, W&J.
TENTER FRAME 40' x 54" S.S. Clips, Butterworth.
WINDERS, TUBE, CO & CN—50"—60" 100 yd. dial C&M, Rebuilt.

DYEING & FINISHING—STOCK & YARN

CONDITIONER, Steam Autoclave, 7' long x 32" diameter, Ballis Mfg. Co. 1946.
CONDITIONER, YARN, S.S. Controls, H-W Model, Industrial Dryer 1946.
DRYER, Raw Stock, 5 section, 10 motor driven fans, Sargent 1940.
DRYER, Skein, continuous type, 3 section—conditioning section with motor and controls, P&S 1936.
DYEING, Package, stainless steel 400 lb. autoclave, with 3 carriers, M.D. and pump, Obermaier 1936.
DYEING, Package, stainless steel 200 lb. autoclave, with 2 carriers, M.D. and pump, Obermaier 1936.
DYEING, Raw Stock, RD 12, S.S. tank and 200 lb. rotary tub, M.D., Smith Drum 1946.
DYEING, Skein, pulsating type, 200 lb. S.S. construction, Pegg 1949.
EXTRACTOR, Squeeze, 66" wide, hydraulic pressure, delivery and discharge tables, Sargent 1946.
SLASHER, 5 Drum 52" tinned copper, Sizing Unit, Kettle, Agitator, M.D., Johnson Rebuilt.

WOOLEN-WORSTED—OPENING THRU WARPING

BALLING MACHINE, 16 spindles, 7" gauge, 2 oz. balls, M.D., Ruf 1936.
BEAMER, 92" adj. with 2400 spindle Creel, Warp Compressing 1947.
BLOWERS, WASTE END, with Nozzles, Flexible Hose with M.D., Sturtevant, 1947.
BREAST, 60" x 16" diameter cylinder.
CARD, 2 cyl. IRON, 48" x 60" dia., Hopper, Breast, Ring Doffers, Triple Rubb Condenser, D&F, 1923.
CARDS, 2 cyl. IRON, 48" x 60" dia. Hoppers, Breasts, Broad Band Feeds, Ring Doffers, Double & Triple Rubb Condensers, Smith & Furbish.
CARDS, 3 cyl. IRON, 48" x 60" dia. Hoppers, Breasts, Bat Rolling Heads, D&F 1916.
CARD, 3 cyl. IRON, 60 x 54 dia. Hopper, Breast, Tape Condenser, 108 ends, D&F 1938.
CARDS, 3 cyl. IRON, 53 x 48" dia., Hopper, Breasts, Tape Condensers, 144 ends, Schimmel 1930.
CARDS, 3 cyl. IRON, 60" x 48" dia., Hoppers, Breasts, Tape Condensers, 120—144 ends, Schimmel 1930.
CARDS, 3 cyl. IRON, 72" x 42" dia., Hoppers, Breasts, Tape Condensers, 160 ends, Hartman 1938.
CARDS, 3 cyl. IRON, 72" x 60" dia. Hoppers, Breasts, Tape Condensers, 120 ends, Peraltas, D&F 1949.
COMBS, Worsted, Noble type, stop motions, Nail Regulators, Taylor-Wadsworth.
CONDENSER, Return Air, Upright Type, cylinder 72" x 32" dia., Rotary Brush, Manifold, Floor Stands, Whitin 1931.
CONDENSER, Tape, 60" Single Rub, 4 bank D&F 1939 Rebuilt.
CONDENSER, Tape 60" Double Rub, 4 bank, D&F 1936-37.
CONDENSER, Tape 48" Triple Rub, 4 bank, Whitin 1929.
CRUSH ROLLS, 24" wide, 3 rolls Top and 3 Bottom, with Doffer and Feed, Sargent 1942.
DRAW BOXES Worsted 12 x 6, 14 x 8, and 14 x 9—12-24-28-32 spindle units, P&S 1948.
DUSTER, 12" Cone Cylinder, M.D., Sargent.
FEEDS, Scotch Center Draw Broad Band, for 48" Cards with 11 Conveyors Fi Feed Tables, Whitin 1948.
FEED, Hopper for Card 60", Whitin 1936 Rebuilt.
GARNETTS, 3 cyl. units, 30" x 60", Hopper Feeds, Metallic Wire No. 18-20-22, Hunter.
GILL BOXES, 2 spindle Intersecting, 14" x 9", 12 ball Creel, P.S.
GILL BOXES, Intersecting 2 and 4 head Can Type, Schlumberger.
MULES, 360 spindles, 2½" Gauge, G.P., 14" bottom, M.D., D&F 1946.
PERALTAS, 60", 1945-49 Model, Duesberg-Bosson.
PICKERS, BURR with Blowers, 24"—48".
PICKER, FEARNAUGHT, 48" x 48", C&M, Rebuilt.
PICKER, OPENER, 60 x 30" dia. B.B. Cylinder, S.S. Pins, P&S 1947.
PICKERS, RAG, 10" x 38" O.D. Cylinders, Kitson.
SPINNING FRAMES, WOOL, 180 spindles each, 4" Gauge, M.D. Whitin, 1929, Rebuilt.
SPOOLERS, JACK, 13-5/8" Detectors and Signalling Device, Yardage Stop, Counters and 40 end Bobbin Creels, Warp Compressing, 1948.
TWISTER, FANCY, 180 Spindles, 4½" Gauge, Collins 1947.
WARP REELS, 82" Heavy Duty, Brass Plates, Pin Type Compresser, Beamer, Neck and Reed Stand, D&F.

WINDERS

16 B.B. Spindles, Paper Cone, M.D., S-L, Rebuilt.
40-60-100 Spindles, Paper Cone, M.D., Foster No. 12.
40 Spindle, Skein to Cone, M.D., Foster No. 35.
100 Spindle, Paper Cone, M.D., Foster No. 101.
60 Spindle Tube, M.D., Foster No. 101.
80-100 Spindles, Wood Cones, M.D., Foster No. 102.
40 Spindle WOOD BOTTLES, C&C.
30 Spindle COPS, Lazenby 1939.
REEL, 50 Spindles, adj. 54"—72"—L&H, 1944.
No. 50 and No. 90 Universal Winders.

LOOMS—WEAVING

140 Model XD 61" R.S. Dobbies, M.D., Draper 1949
48 Model D 42" R.S. Dobbies M.D., Draper 1921
30 Model K 47½" R.S. Dobbies, M.D., Draper
48 Model K 49½ R.S. Dobbies, M.D., Draper 1932
126 Model D 70"—80", R.S., Dobbies, M.D.
100 TERRY TOWEL—32" R.S., 4 Har, B.D. C&K 1926
16 C4—48" R.S. 4 Har. M.D. C&K 1936
90 S5—54" R.S. Dobbies M.D. C&K 1941
80 S3—54" R.S. Dobbies M.D. C&K 1936
26 S6—56" R.S. Dobbies M.D. C&K 1950
18 C4 4 x 1—70" R.S., Convertible 20 Har. M.D. C&K 1945
72 W1-4 x 1—92" R.S., 25 Har., M.D. C&K 1929
36-4 x 1, 82" R.S., 25 Har. M.D. C&K Rebuilt
10 W1, 4 x 1, 92" R.S., 25 Har. M.D. C&K 1940
18-4 x 1—92" R.S., 25 Har. M.D. C&K 1936-28
14-¼ AXMINSTER with Overhead, C&K

OPENING THRU WARPING

BALE BREAKER, Extended Apron, S-L, 1922 Rebuilt.
CARDS, Waste, 49 Roller Type, Whitin.
CARDS, Cotton, 45", 27" Doffer, 12" Coiler, Whitin.
COMBERS 12½" Aspirators, 12" Coilers M.D. Naismith.
CONDENSERS, Ceiling, cyl. 18" x 36" Self-Contained Fan Type.
CUTTERS, Sliver, Single Knife—Taylor-Stiles 1942.
LAP, Ribbon & Sliver, Whitin.
OPENER, Vertical, Adj. Grid, S-L 1922 Rebuilt.
QUILLER, 378 Spindles, 3½" Gauge, M.D. Whitin New.
ROVING FRAME, 152 Spindles 8" x 4" D2-LD, S-L 1937.
SLUBBERS—80-84 Spindles, 10 x 5, Casa Blanca LD—S-P.
SPINNING FRAMES, 240 Spindle Units, 3¼" Gauge, Casa Blanca LD, M.D. Whitin.
SPINNING FRAMES, 240 Spindle Units, 3¼" Gauge, Conventional, Whitin.
SPOOLER, 140 Spindles, WARPER with 432 end Creel and Tailing Machine, M.D., Barber Colman.
WARPER, 54½" with 150 end Magazine Creel, Reiner New.
WARPER, 54½" with 800 end Magazine Creel, Cocker 1940.
WARPER, 82" wide x 8 yd., M.D. with 880 end Magazine Creel, Sipp 1948.

COMPLETE MILLS

COTTON WASTE Unit 49" Iron Roller Cards, Picking, Slubbers and Twisters.
Cotton Carded Unit, approx. 4600 Spindles, OPENING thru TWISTING.
PACKAGE DYEING Unit—Stainless Steel Equipment.
300 lb. units with 7 S.S. Carriers.
125 lb. unit with 3 S.S. Carriers.
Boss Dyers, automatic controls, Combination Extractor & Dryer, 4 port Dryer, 2 pkg. Crimper, M.D. units, Obermaier 1951.
Worsted Unit, 1300 Spindles, SCOURING thru SPOOLING.
Wildman INTERLOCK KNITTING Unit with 8—26" and 5—30" Machines 24 Feed, 1946-50 Model.
WOOL FELT HAT BODY Unit, CARDING, FORMING, BLOCKING, DYEING, ETC.

McDOWELL ASSOCIATES, Inc.
2568 Park Avenue Bronx 51, New York
Tel.: MElrose 5-6741

NEW AND USED TEXTILE MACHINERY BOUGHT AND SOLD

HERE IS A PARTIAL LISTING OF SOME OF THE FINE EQUIPMENT THAT WE HAVE IN STOCK.

152—C & K, 2x1, 83 automatic shuttle changing motorized looms, weave 52" and 54" cloth. Complete.
112—C & K, 2x1, 5-5 automatic bobbin changing motorized looms, weave 52" cloth. Complete.
48—C & K, 5-5, 2x1, 56" motorized automatic bobbin changing looms. New.
96—C & K, 2x1, automatic bobbin changing looms, weave 50" cloth complete. Motorized.
12—C & K, 4x4, 68" intermediate gem head motorized looms complete, weave 64" cloth.
10—C & K, 4x4, 72" intermediate gem head motorized looms, weave 68" cloth.
46—Atwood (Monarch type) 184 spindle double deck spinners, motorized.
168—Draper XD practically new 84" automatic bobbin changing looms.
72—Draper XD practically new 53" automatic bobbin changing looms.
48—Draper XD practically new 48" automatic bobbin changing looms.
1—Sipp 8 yard 181" magnesium frame high speed warper, practically new.
3—Johnson 5 can 60" slasher complete, silk system.
2—Van Vlaanderen 5 can 60" slashers, silk system, complete.
2—Cocker 60" 5 can slashers, cotton system, complete.
1—Johnson 80" 5 can slasher complete, cotton system.
1—2 cylinder 20"x50" Smith & Furbish Garnett machine, equipped with speed reducer excellent condition.
Complete line of Universal #90 quill winders, #50 cone winders.
New loom parts and supplies, harness frames, heddles, bobbins, etc.
Large assortment, stainless steel, steam jacketed kettles, 40, 60, 80 and 100 gallon capacity complete with lids, stands, safety and drain valves.
100—Draper 62" XD automatic bobbin changing motorized looms, complete, practically new.
24—XD, 2x1, 50" automatic bobbin changing looms, complete, practically new.
24—XE, 44" automatic bobbin changing motorized looms complete, excellent condition.
2—Johnson 7 can stainless steel 32x60 cotton system slashers, 12 beam racks, complete, practically new.
168 spindles Whitin Schweiter automatic quill winders, late type.
1—Sipp high speed warper and cone new. (Warper 54½" creel 1008 creel, cotton system, practically ends)
Also, other cone creels and warpers available.

SHAFFER & MAX INC.

33-37 N.Third St., Tel: 4-9434 Allentown Pa.

UNIVERSAL #50 WINDERS

REBUILT GUARANTEED

Coners, tubers, pineapple coners built to your specifications.

ALSO

Universal #90's
5 Ruf Balling Machines
1—40 Spindle Foster #12, skein in tube
1—40 Spindle Atwood SB-Vertical motor

GAINES TEXTILE MACHINERY CO., INC.

141 West 17th St. New York, N. Y.

MILLER MACHINERY CO.

66 RAILROAD AVE. PATERSON, N. J.
Tel. Sh 2-5467-8

Textile Machinery and Supplies

BOUGHT AND SOLD

Warpers • Winders • Quillers
Looms

IMMEDIATE DELIVERY

1—3-roll 50" V. V. Calender, M. D.
10—Textile Squeeze sets, two rubber rolls, 96" anti friction bearings
1—64" x 40' Tnter Frame, S. S. Clips, M. D.
1—V. V. Palmer Quetch Unit 64" with Compensator and Blanket, M. D.
1—Set 10 Stainless Steel Dry Cans 72"
1—48" Hercules Extractor, Monel Basket, 4 Speed late type, like new
1—76" Beamer, with enclosd B. B. Reeves, M. D. reverse switch
1—54" K. & G. Embosser, M. D.
1—25 Gal. Mixer Copper Jacketed
2—Dinsmore Bicycle Sewing Machines, $50.00 each
1—48" Hermas Inspection & Meas. Machine, $200.00 M. D.
1—44" P. & W. Inspection & Meas. Machine, M. D. $150.00
1—50" Padder, 2-roll $40.00
1—36" Extractor, Copper Basket, M. D.

1—Vertical Bullit Vat, Airless Ager, Approximately 24" Dia. for 60" goods, 6 perforated winding rolls to fit Ager, 1 winding and unwinding Beamer Cheese Cloth attachment, practically new.

A & M BLANK CO., INC.

301-313 East 22nd St. (at 7th Ave.) Paterson, N.J.
SHerwood 2-1367-8

FOR EXPORT SALE

10—D & F Set-of-3 Breaker and Finisher Wool Cards, 48 x 48. Equipped with good clothing, Breasts and Feed Boxes with Metallic Aprons. Priced to Sell. Inspection anytime in N.E.

Bradford Worsted Equipment sufficient for a Spinning and Weaving Mill of 256 looms. Draper Looms for 75" cloth.

Dyeing and Finishing Equipment.

300M A. L. Bobbins, 8¾"
380 Jack Spools, Fibre head 40½ x 8"
520 Fibre Roving Cans 10" x 36"
300 Card Spools 58" x 8" Fibre hd.
Lot C & K and Draper Loom parts (New and used)
Large lot of KA Electrical and Mechanical Drop Wires

WANTED

Narrow Fabric Beams
Rayon Bobbin Stripper, Model L.

L. J. McCAFFREY & SON, INC.
P. O. Box 495 Established 1920 Pawtucket, R. I.
Tel. 3-1314

EXTRACTORS: 36" FLETCHER 50" HERCULES

DIRECT MOTOR DRIVE
UNDERSLUNG MOTOR

5 FIDELITY 1946 MODEL MOTORIZED 2 ARM REELERS

1 LYDON CAKE DRYER 1949 MODEL 2 UNIT

COMPLETE WITH TRUCKS, INSTRUMENTS AND POLES—LIKE NEW CONDITION

8 FLETCHER NARROW FABRIC LOOMS

INDIVIDUALLY MOTORIZED, CAM MOTION SET UP ON 42" BROAD BEAMS

50 ½ LB AND 1 LB ATWOOD TWISTERS

100 UNIVERSAL #50 BELT AND GEAR GAIN CONERS

5 FOSTER SIZING MACHINES

25 SPINDLE, MODEL 76, MOTORIZED, EXCELLENT CONDITION

PHONE 3-7497

Wm. Rabinowitz & Sons

214-222 HAMILTON STREET · ALLENTOWN, PA.

PHONE 3-7498

USED EQUIPMENT

AVAILABLE IMMEDIATELY

Item SM-SDM

SMITH DRUM SKEIN DYE MACHINE

with

Monel Metal Take and Detachable Separator
Hydraulically Operated Glass Sticks
15 Arm
Rated Capacity
5 lbs. Filament Rayon Per Stick
Complete with
Hydraulic Accumulator Pump and Tank
Includes 3 HP Motor for Operating Machine and ½ HP Motor for Hydraulic Pump

Item J-BF

W-3 LOOM BEAMS STANDARD C & K CAST FLANGES

13 Pr. of 22"
23 Pr. of 28"

Item H-FC

6—S.A.G. FRENCH COMBS

Year 1948
Wide Model
30½" x 12" can
22" x 23" apron

Item E-FWB

25,000 USED WOOD CHEESES

8" x 1½"
for 102 Foster Winders

COLLINS & AIKMAN CORP.

Sales and Salvage Department
6th & Upland Aves.
Upland, Delaware Co., Pa.
Phone—Chester 3-4167

LOUIS J. WELSH, Pres. & Treas. — ROBERT H. WELSH, V. Pres. & Gen. Mgr.

JOHN J. McCLOSKEY, Inc.

MANUFACTURERS AND DEALERS

TEXTILE MACHINERY OF ALL TYPES

APPRAISALS — WOOLEN—WORSTED—COTTON — LIQUIDATIONS

NEW AND USED—REBUILT

Office Factory Warehouse: Collingswood, N. J — Phone 5-0105

FOR SALE — IMMEDIATE DELIVERY

LOCATED AT ZION, ILLINOIS in former FIELDCREST MILLS

WEAVING

1—Nottingham Lace Loom 360" x 6 Pt.
5—Nottingham Lace Looms 360" x 8 Pt.

FINISHING

1—National 6 Roll 72" x 10" Heat Setting Mch. yr. 1951.
1—Burlington S.S. Boil-Off Mch. yr 1951.
1—Winsor & Jerauld 2-Rubber Roll 64" x 18" Padder. yr 1951.
1—Tenter Frame Unit Includes Stack 110" Dry Cans. Opening, 60' Tenter with W&J Clips. Despatch 40' Housing with Gas Burners etc. All Rebuilt or New in 1951.
2—Rodney-Hunt 8-comp. 10" Stack Loop S.S. Washers, 1941.
1—Rodney-Hunt 8 comp. 10' Stack Loop S.S. Tint & Starch Mch. 1941.
1—Stack 4-Tinned Dry Cans 23 x 72".
1—D. Gessner 72" Full Decater.
1—Infra-Red Drying Unit for Table Cloths. 1948.
1—Cocker High Speed Warper, Reeves Control, 1120 Live End Mag Creel. 1943.

PLANT

1—Kellogg 1½-HP Tank Mounted Air Comp. 1947.
1—Westinghouse 100KW Rectifier Unit 440/60/3 to 230V DC. 1948.
2—I.B.M. Electric Time Clocks. 1949.
1—Tornado Mdl 52 Vac Cleaner. 1950.
1—Cleveland Tramrail System (abt 250') trolley. 1947.
1—Barrett Cravens 500# Portable Electric Stacker. 1944.
1—Lot Steel Shelving—all kinds.
Complete Machine & Carpenter Shops.
75—Fibre Box Trucks 40 x 16 x 23.
12—Dreadnaught Box Trucks 42 x 34 x 24.
100—Steel Lockers (clothes).
1—Markem Printing Mch Mdl KD6. 1945.
1—Markem Printing Mch Mdl 412. 1945.
2—Saxmayer Bundle Tyers.
1—Finnell Floor Scrubbing Unit.

SCALES

1—Toledo 250 x ½ lb. dial Portable 30 x 30 Plat.
1—Exact Weight Scale 1—1100 grams. 1942.
1—Fairbanks 1000 x 1 lb. Dial Dormant 72 x 48 Plat. 1947.
1—Toledo Parcel Post Scale 70# x 4 oz. 1939.
1—Fairbanks 1000 x 1 lb. Dial Dormant 60 x 48 Plat.
1—Fairbanks 1000 x 1 lb. Dial Dormant 48 x 48 Plat. 1947.

Complete plant of misc. items, office equipment, sewing, shipping, etc. Open for inspection.

FRANK G. W. McKITTRICK CO.

78 FLETCHER STREET — LOWELL, MASS.

35-YEAR-OLD "CONSOLIDATED" INSURES DEPENDABLE ECONOMY

1—5-roll 72" Calendar, M.D.
1—National 8-fan Loop Dryer.
1—Textile Hydraulic Starch Mangle.
2—S.S. Washers, rubber rolls, M.D.
4—Allen Klers, 5000 lbs. pumps, M.D.
1—P & S Yarn Dryer, metal housing.
2—P & S & Hunter Stock Feeders.
1—Wool Washer, Hunter Squeeze Rolls.
1—Werner NEW 2-roll 60" Microset Padder.
1—66" 2-cylinder Gum Back Machine, double take-up, adjustable doctor blade, blanket.
1—Morrison 68" Palmer Quetch Unit.
1—Hinnikens 2-roll B.B. Quetch.
2—Nasmith Cotton Combers, M.D.
1—Pernick 66" Inspection Table, M.D.
2—Textile Steam Jacketed Starch Kettles, M.D.
3—Butterworth Rotary Dyers, M.D.
3—Raschel Knitting Machines, M.D.

COMPLETE THREAD MANUFACTURING PLANT

OUR 35th YEAR
CONSOLIDATED PRODUCTS CO. INC.
13-16 PARK ROW N.Y. 38 N.Y. BArclay 7-0600

FOR SALE FOR SALE

6 —Whiting Skein Reels, adjustable 54" to 72"
2 —Model "D" Whitin Return Air Condensers
2 —Saco Lowell #7 Air Filters, 1949 Model, baq.
1 —Supreme Knitting Machine 20" cylinder, 20 cut, 64 feed
10M—5x5½ Fiber head spools
10M—4x5½ Fiber head spools
83 —Motor bases and switches for ½ HP loom motors.

WILSON LEWITH MACHINERY CORP.
Post Office Box 4100, CHARLOTTE, N. C. Phone 4-2403 Warehouse: Wilkinson Blvd. Behind Barbeque Lodge

BIALEK'S BEST BUYS

370—Draper, "XK," 44" 100—Draper 50" XD, 1948
B. C. Knotter, 1949, M.D. 48—Draper 60" XD, 1948
C.&K. S-3, 56" RS, Dobby Whitin Auto Quillers, 1948

COMPLETE MILLS

THEODORE BIALEK & CO.
396 Straight St. Paterson, N. J. Lambert 3-5886
6704 Empire State Bldg. New York 1, N. Y. Longacre 3-4978

PAUL M. BROOMFIELD
5 Colliston Rd. Brookline 46, Mass. Longwood 6-3980
Offers: 2-Rubber Roll PADDER, 78" x 10½", With Hvy Cast-Iron Stands, Lever Pressure. 42" Open-Top Hydro-Extractor, (Centrifugal). Kaumagraph Cloth Marker Unit. Cylinders for Eng. Rag Pickers 21½" x 41".

2 C & K 48" 4 x 4 Gem Head 600 Hook Jacquard Rebuilt Looms. Also 1 No. 90 Universal Quiller.
FOR SALE
Used for Experimentation
PILGRIM BADGE & LABEL CORP.
278 Babcock St. Boston 15, Mass.

Questions and Answers

(Continued from page 238)

a driving method. A driving method only increases production; quality diminishes. To match a stocking at the high splice and welt properly, the operator must pull the sides together and hold them with one hand to insure accuracy in matching.

A driving method at these places only results in guesswork. The driving method is all right from the high splice to the welt, where the operator holds one side in either hand and uses the sliding method.

Neither method as outlined above would improve quality and production at the same time; but if both methods were used, you'd get the good points of each—better quality and higher production.

Neither method is harder to teach nor requires more time to learn. If you plan to re-train operators from one method to the other, or to a combination of the two, it is best to put an operator who uses one system next to one who uses the other.

Glass and Asbestos Are Being Processed Together

Technical Editor:

Is it possible to combine glass fibers with asbestos fibers? How can this combination be processed, and what are its possible uses? (9552)

For some time, glass yarns have been sold to weavers of asbestos, who in turn use the yarns as a core in twisting and plying. The yarns are then woven into various fabrics, basically in government specifications. Also, staple slivers are sold as a filler for some asbestos wickings, either oil wicks or, in some cases, flower-pot wicks.

More recently, a development program was started by a major asbestos manufacturer to include a glass fiber with asbestos in carding.

What Relative Humidity Is Best for Spinning?

Technical Editor:

What percent relative humidity is best suited for the various operations in a cotton spinning mill? (9549)

The following relative humidities seem best suited for the operations in a cotton spinning mill:

Opening and picking	50 to 55%
Carding and drawing	50 to 55%
Combing	55 to 60%
Roving	53 to 58%
Spinning	55 to 60%
Spooling, winding, warping	55 to 65%

News of the Month

(Continued from page 244)

normal and rapid-and-intense burning), and Class 3 (covering textiles recognized by the trade as being unsuitable for clothing because of their rapid and intense burning).

The standard has been circulated among industry representatives. When acceptances represent a "satisfactory" proportion of manufacturers, the standard will be considered established.

Latex-Products Research Project. Research on latex products, particularly those used by rug and carpet and other textile mills, has been initiated at Georgia Institute of Technology, Atlanta, Ga., in its engineering-experiment station. The project is sponsored by Southern Latex Corp., Austell, Ga., and will emphasize the development and application of old and new latex products as specifically applied to mill problems in the Southeast.

Mobilization News Items

Price Controls Suspended. Since May 20, price controls have been suspended on raw cotton and a wide variety of cotton, wool, and synthetic textiles. Included in the order are wool yarns and fabrics containing 25% or more of wool or wool waste by fiber weight; cotton yarns and fabrics in the gray that consist of 50% or more of domestic cotton and less than 25% of wool, rayon, nylon, or other fiber (including such products heretofore ceiling-priced under CPR-37); and synthetic-fiber and silk yarns and fabrics (except synthetic tire fabrics).

The action is in line with the OPS policy of suspending or otherwise relaxing price controls on commodities whose selling prices generally are materially below ceiling and which are not expected to reach ceiling prices in the near future. If termination of any of the suspensions should become necessary, it was noted, termination would cut across any outstanding contracts for delivery at prices above the ceilings that were in effect before May 20, 1952.

Industrywide Procurement Policy. The Panel on the Textile Industry appointed by the Office of Defense Mobilization has found that it is more in the public interest to apply the governmental textile-procurement policy on an "industry" basis rather than an "area" basis. The reason given is that there exists an excess capacity generally in the textile industry and that there are relatively low levels of

(Continued on page 274)

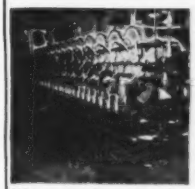
REBUILT MACHINERY FOR IMMEDIATE DELIVERY

1—72" Parks & Woolson Decatiser, Pump & Motor.
1—Butterworth Clip Tenter 40' x 72", Stainless Clips, Reeves & Motor.
1—Hinnekens, 60" Variable Speed Examining & Tubing Machine.
1—Elliott & Hall 54" and 60" Flat Folders.
2—W.J. Tenter Frames, 30' x 54"
1—W.J. Tenter Frame, 30' x 96"
1—3 roll silk or rayon Calender, M. D.
1—42" Self Balancing Extractor, M. D.
2—150 gal. Jacketed Kettles with agitators.
1—Set of 21-72" x 23" Dry Cans Horizontally.
1—72" Hydraulic Padder, M. D.
1—Set of 9—20" x 60" Heavy Steel Dry Cans.
1—50" V. V. Button Breaker.
1—60" Verduin Hydraulic Padder.
1—64" Van Vlaanderen motor driven Tuber.
1—60" Verduin 40 ton Hydraulic Calender.
2—60" motor driven Beamers.
4—Herman measuring & inspecting machines, tube to tube.
1—60" Measuring, Inspecting & Tubing Machine, tube to tube, new, variable speed, forward, neutral & reverse.
30-60 gallon copper steam jacketed Kettles.
1—Hinnekens Boil-off Machine.
1—Sterling 7½ H. P. Vari-drive.
1—Reeves 7½ H. P. Vari-drive.
About 5,000 S. S. high speed V. V. Clips.
Agitators of various sizes.
Motors of various sizes.
New & Used Electric Hoists.

8—60" Verduin, Stainless Steel, Motor Driven Jiggs
2-3 ft. 2-8' 1-10' 1-14' Stainless Steel Lined Dye Boxes
New Copper Rollers 16" x 60" wide, W Bore

SHerwood 2-7666 — SHerwood 2-7667
DOMESTIC — Moe Blank — EXPORT
TEXTILE MACHINERY
523-525 E. 18th ST. — PATERSON 4, N. J.

350 No. 50 UNIVERSAL CONERS—10 with PINEAPPLE ATTACH.
ALL "L" DRIVE-GEAR GAIN. S. S. TROUGHS—TUBE & 3° 30' CONE ATTACHMENTS
10 ATWOOD REDRAW FRAMES—Large Package
35 NO. 75 FOSTER CONERS — S. S. EMULSION TROUGHS & ROLLS—3°30' TAPER
20 ATWOOD 110 UPTWISTERS — 5" x 6" GAUGE SPOOLING AVAILABLE
5 SIPP WINDERS — D.D. OIL-LESS BEARINGS, FINGERS WILL ACCOMMODATE " DIA. HDS. 140 SPINDLES
100 M. FIBRE HEAD SPOOLS 4-9/16"T x 3"H x 1½" Bbl.
1000 Bakelite Sizing Tubes
6000 ALL BAKELITE 5B & 10B SPOOLS 6"T. x 3⅝"H.
70,000—7" PAPER COPS WITH METAL FEELERS
PENNSYLVANIA SPOOL & EQUIPMENT CO.
530 N. FULTON ST. ALLENTOWN, PA. Phone 3-7545



FOR SALE
30—Tinned steel dry cans 23" dia x 120" face bucket type gear driven friction bearings upright or horizontal frames.
20—Copper dry cans 23" dia x 44" face bucket type gear driven friction bearings upright or horizontal frames.
15—Copper dry cans 23" dia x 100" face steel heads gear driven.
5—7" slashers 58" face bucket type.
5—5" slashers 56" face bucket type.
2—3" slashers 38" face bucket type.
We can supply one dry can or as many as your needs may be. We fabricate new copper or stainless steel dry cans any width. Dry can machines built to your specifications.

Write • phone • wire
296 Lincoln Ave.
EASTERN TEXTILE CO.
New and Used Finishing Machinery Specializing in Dry Can Machinery
Tel. 33228
Fall River, Mass.

EXCELLENT FINISHING MACHINERY FOR SALE AT LOW PRICES
1—45" Shreiner for sale (must be reengraved)
1—60" Embossing Calender 4-11/16" bore
1—40" Pigskin Embossing Calender
1—45" Colonial Pattern Embossing Calender
3—50" Dewey & Almey Blanket Washer, all S.S., practically new
2—50" Sueding Machines made by Van Vlaanderen
1—60" x 62" Opening Butterworth Tenter with Stainless Insert Chain one year old
1—57" 3 Roll Van Vlaanderen Quetch
1—80" 3 Roll Hydr. Pad
1—110" 3 Roll Hydr. Pad
1—Set of 50 Copper Cans or less
TEL. UNION 1-0050
TEXTILE FINISHERS EQUIPMENT
144 WEST RIVER ST.
PROVIDENCE, R. I.

S&K Where your $$$$ buy MORE

COMPLETE DRAPER AUTO. PLANT 110 LOOMS

7000 LBS CARPET WOOL 4/19's ON CONES

100 Draper-E-Cam 45½" R. S.
300 Auto. Drapers 43" to 76" cloth
300 XD Drapers 49" cloth
140 S-3 C & K 56" R.S. shuttle changers
48 S-6 C & K 56" R.S. bobbin changers
40 C & K Woolen looms 72" to 110" R.S.

Sipp Hyspeed Warper & 1000 cone creel
72—Heads Whitin Schweiter Quillers 1947
1 Barber Coleman Warp tying machine, Model LS 1949
1 Terrell Bobbin Stripper 1949

DYEING MACHINERY

1 New 80½" Beamer
1 80" wide Pin Tenter Frame
1 40' Hinnikens 60" frame with Gas Burners, reeves & motor
4 S.S. 60" Verduin Jiggs
2 Nash Hytor M. D. Vacuum Pumps
2 V. V. 57" Vacuum Slot Suctions S.S. Idler Rollers
1 60" Hinnikens Jiggs all stainless steel
1 Paterson Examiner, 72" wide
1 72" Park Woolson Decater
1 Set 18 Dry Cans 48" face; 5 stainless steel, 13 iron tinned with reeves
8 Dye Boxes S.S. lined 8'—10'—12'
1 Jostrom fabric conditioner 64"
1 19 can Butterworth dryer 72"
1 Textile Tenter Frame 52" wide 40' long
4 Three (3) Roll Padders 45"
30 50" Dry Cans
5 Atwood 5B Twisters
9 Atwood Single Deck Utility Spinners
8 Sipp Warpers & Winders
20 #90 Universals
4 Oswald-Grundy 46—Spindle Cop Winders
11 Foster-Coners 75A
2 Johnson Slashers 7 Can & 3 Can—66"
1 Set 17 Can Butterworth 132" S.S. B.B. Motor & Reeves Drive
1 72" Greige Washer with Squeeze Rolls 24' long

STAVE & KESSLER
106 KEARNEY ST. P. O. Box 1611 Paterson, N. J.
Phone ARmory 4-7486

LIQUIDATING
PARTIAL LISTING

1—60" Hydraulic Finishing Calender, late type.
2—Tenter Frames 60" width by 40' and 90' complete.
10 sets 96" rubber covered squeeze rolls, anti-friction bearings.
60 Dry Cans. Stainless Steel and Copper, 48"—144" width by 23" to 60" dia.

WRITE FOR NEW LISTINGS
INDUSTRIAL PRODUCTS OF AMERICA
140 Market Street IPA Paterson, N. J.
SHerwood 2-6614-5-6 CABLES: Texindus

1—1600 end Cocker Creel with Stop Motion.
1—30 Spindle Lazenby K Type Bobbin Winder complete with 5 H.P. Motor Drive. Brand new never used.
2—5 Spindle Model #78 Foster Winder Brand new, never uncrated.

L & M WEAVING CORPORATION
414 N. NINTH STREET
P. O. BOX #88
SCRANTON, PA.

FOR SALE
ONE (1) WHITIN SCHWEITER AUTOMATIC QUILLER
15 SPINDLE.
FS-4651, Textile World
330 W. 42 St., New York 36, N. Y.

HOSIERY MACHINES
used and rebuilt
KNITTERS—RIBBERS—LOOPERS—
CYLINDERS—DIALS—TRANSFERS
HOSIERY NEEDLES AND PARTS
JOS. BRESANI
N. W. Cor. Hancock & Somerset Streets
Phila. 33, Pa.

TRADE WITH BAUER
BUY - SELL - TRADE
your
COMPRESSOR VACUUM PUMP STEAM BOOSTER
L.W.BAUER
PASSAIC AVE. BLOOMFIELD N.J.

Your inquiry will have special value . . .

if you mention this magazine, when writing advertisers. Naturally, the publisher will appreciate it . . . but, more important, it will identify you as one of the men the advertiser wants to reach with this message . . . and help to make possible enlarged future service to you as a reader.

(*Continued from page 273*)

employment prevailing at this time generally throughout the industry.

In short, certification of "distressed areas" for special treatment under Defense Manpower Policy No. 4 would result merely in alleviating distress in one area of the industry at the expense of other areas without furthering the general objectives that are anticipated by the application of the "area approach."

The following measures were among those recommended: (1) that to the extent possible, preference be given to mills whose weaving operations (as a result of acceptance of the proposed contracts) will not be in excess of 80 hr. per week, not including other supporting activities, and (2) that no provision be made for payment of any price differential.

M-53 Revoked on Cotton Duck. A 30% expansion in cotton-duck production capacity has made it possible to revoke Order M53, NPA has made known. The old order provided that cotton-duck manufacturers need not accept defense-rated orders in excess of 80% by weight of their scheduled production. At the same time, looms making duck during the week of Jan. 14, 1951, could not be used in the weaving of any other fabric, except in special instances.

When the order went into effect, production of duck was at the annual rate of approximately 330,000,000 yd. During the first quarter of 1952 the annual rate reached 432,400,000 linear yards, which figure was exceeded only during World War II.

Cotton-duck manufacturers are still obliged to file a quarterly report on weekly operating hours, production, and shipments with the Bureau of the Census in the Department of Commerce, the collecting agency for NPA.

Long-Staple-Cotton Procurement Discontinued. Procurement of foreign-grown extra-long-staple cotton, either through direct purchase or acquisition by barter, has been discontinued by the U. S. Dept. of Agriculture. The action is based on a request from the Munitions Board, pending a review of stockpile needs.

Since March 21 of this year, the Department of Agriculture had been receiving offers from American firms for the sale or barter of foreign-grown extra-long-staple cotton of the types that met National Stockpile Specification P-84, revised. Offers to sell had been received on the second and fourth Mondays of each month.

These procurement operations have now been suspended.

FOR SALE

SUPREME MJ—22 Cut machine—Like New—Stationary top—Electric Stop Motions

Machine Width	Quantity	No. of Feeds
14"	1	44
15"	1	48
16"	1	50

SUPREME—18 Cut machine—48 Feeds—19" machine Revolving top—Electric Stop Motion

SCOTT & WILLIAMS Ribbers—All in A-1 Condition—Fully Automatic—Electric Stop Motions

Machine Width	Quantity 11 Cut	Quantity 12 Cut	No. of Feeds
12"	1	1	8
13"	1	1	8
14"	3	4	8
15"	1	1	8

WILDMAN Spring Needle Machines—28 Cut—Like New—Furnishing Wheel—Stop Motions—Cams for Non-Run and Plain Cloth

Machine Width	Quantity	No. of Feeds
12"	1	8
13"	1	8
14"	3	8
15"	1	8
15"	1	10
16"	2	10
17"	1	10
20"	1	12
21"	2	12
23"	1	12

FS-4506, Textile World
330 W. 42 St., New York 36, N. Y.

Two Whitin 60 x 60, single cylinder, Model G cards, 25" breast, single 30" doffer, single rub, 104 end tape condensers, completely hooded with or without motor drive.
Two Whitin dust collecting ceiling mounted condensers, Model C, with or without motor drive.

GARLOCK PACKING CO.
PALMYRA, NEW YORK

FOR SALE:
12—76", 4 x 1, Crompton and Knowles W-3 Looms Built 1947.
1—62", Three-Roll, 20-Ton Calender with Extra Rolls, Pneumatic Loading, Variable Speed Complete with Drive.

CHICOPEE MANUFACTURING COMPANY
LUMITE DIVISION - CORNELIA, GEORGIA

TEXTILE PRINTING MACHINE

3 Color Rice Barton Fales 60" wide Printing Machine complete. Also 200 engraved copper rollers. Reasonably priced.

FS-4603, Textile World
330 W. 42 St., New York 36, N. Y.

FOR SALE

COMBING PLANT

Consisting of large 4 Bowl Sargent Scouring Unit, Automatic Dryer, 3 Carding Machines—60 wide 1 Card 48", all metal, 4 Noble Combs, Gill Boxes, etc. Complete plant in operation.

FS-4652, Textile World
330 W. 42 St., New York 36, N. Y.

PROFESSIONAL SERVICES

EATON & BELL
Patent Attorneys
904 Johnston Bldg., Charlotte, N. C.
753 Munsey Bldg., Washington, D. C.

THE KULJIAN CORPORATION
Rayon Plants & Textile Mills
- Design
- Con-struction
- Management

1200 N. Broad St., Phila. 21, Pa.
Offices Throughout the World

PREPARTORY

1—P.&S. 60" Card Feed (Mod. 535—Practically New)
1—Sargent 42" Picker Feed
1—Hunter 7 section Raw Stock Dryer
1—D. & F. 7' all iron Cone Duster
1—Schofield 48" automatic Duster (box)
1—Woonsocket 36" x 36" ceiling condenser & blower
2—18" x 18" P. & S. Ceiling Condensers
1—"Parkhurst" 48" Burr Picker with Feed
1—Sargent 36" Duplex Burr Picker
1—Schofield 18" x 40" Rag Picker
6—Dodge, Schofield 18" Waste Pickers
1—Card Floor Grinder 60"
2—40" Stock Blowers, B.B.
2—Opening Pickers, 40"
2—Gerry 38" Lumpers

WARPING AND WEAVING

4—D. & F. or Altemus Warpers—rebuilt to order—82"—120", Pin or Pinless
1—Globe Ball Warper & Creels
5—Draper 54" Mod. G Warpers
22—Tonner, C. & K. Plush Looms
12—C. & K. W-1 76", 4x1 Looms
4—C. & K. 92" 4x1 automatic Looms
4—C. & K. 82" 4x1 automatic Looms
36—C. & K. 82" (4x4) Box Looms
2—L. & G. Chenile Cutters

WINDING

UNIVERSAL #50 & #96 WINDERS REBUILT TO ORDER

1—Universal 80 G.F., 96 sp. Cone Winder
1—Foster, Mod. 101, 100 sp. Cone Winder
4—Foster Mod. 12, Skein to Cone or Tube Winders
2—T. & B. Jackwinders, 80 sp. & 120 sp.
10—Lindsay Hyde Adjustable Skein Reels
1—Whitin Quiller 2½" Gauge (long chain)
1—P.S. 132 sp. Twister 4" Ring, band dr.
1—Lanenby 15 sp. Cop Winder
1—Sargent 16 sp. Balling Machine, 1948

FINISHING

1—Gessner Mod. 20 Press, 1950
1—Hunter 26B Fulling Mill
1—Hunter Squeeze Set, 96", hydraulic
2—Birch Bros. & Tack. Mach. (82")
1—Woonsocket 84" D. A. Napper, 36 rolls
1—P. & W. 66" 4 cyl. Brush & Sander
2—Tecale Gig's, double cylinder (90")
1—Yorkshire Crab 72"—3 bowl
1—Butterworth 80", 3 bowl Washer
1—S/S Lined 60" Wetting-out Tank with squeeze rolls (Pneumatic Pressure)
2—P. & W. 66" Mod. A Double Shears
2—Voelker 65½" D. B. Presses
1—Set Dry Cans (4) 27" Copper
6—Dry Cans Copper, 70" x 24"
3—72-32" Cloth Inspecting & Rolling Machines
1—Cloth Measuring & Rolling Machine 80"
2—P. & W. 66" Cloth Doub. & Meas. Mach.
1—P. & S. 2 Truck Skein Dryer

FRANK W. WHEELER CO.

1837 E. Ruan St. **Philadelphia 24, Pa.**
Phones: Jefferson 5-4771-4772
Reputable Dealers for over a quarter of a century

TEXTILE AUXILIARIES

SPECIAL **SPECIAL** **SPECIAL**

1-50" BUTTERWORTH MERCERIZING RANGE

Comprising 2 sets Butterworth 3-roll padders 50", 2 rubber and 1 steel roll, triple set Mycock expanders and steel tank. Lead padder has cloth guide. 1—Beam frame 11 steel caustic cans 58", Clip type tenter frame 60"x80', and 19-roll recuperator, with rubber squeeze rolls 56", rotometer and heat exchanger, link chain, countershafts, and swing folder, completely rebuilt, in wonderful condition, priced right. WRITE —— WIRE —— PHONE

Office—15 Ormsbee Ave. Warehouse **146 West River St.**

Telephones: DExter 1-9650 DExter 1-8837

PROVIDENCE, R. I.

TRIANGLE OFFERS

3—Inspecting Mach. 70", 66" & 60"
60-46" Cloth Draper Mod. E Looms, Mtrs.
36-50" Cloth C.&K. S-5 1942 Looms
56-50" Cloth S-6 1948 C.&K. Looms
1—5 Can Johnson 52" Slasher complete
1—101" DT Warper Sipp East. with 504 end Pin Creel, lge. pkgs.
1—Hill 4 Spool Edge Warper
24—Spdls. 1948 Whitin Schweiter Winders

SPECIAL—168" 2 Barr Whitin Reiner And Saupe Tricot Machines

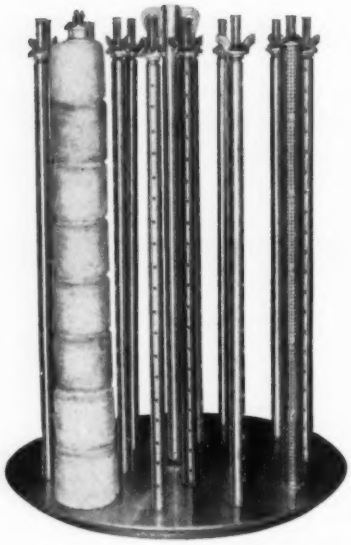
TRIANGLE
PROCESSING MACHINERY CO., Inc.
Specializing in Export & Domestic Production Machinery
305 CLIFTON AVE. Telephone: PRescott 9-8850 CLIFTON, N.J.

FOR SALE!

1—Simpson 47" Batcher, Cutter and Mt. Hope Guides
6—Elliott & Hall 47" Cloth Folders, Air Lifts, 1 Yard Folds
1—Morrison 40' x 60" Tenter, Enclosed Gears, Rebuilt Chain
1—Textile 60' x 50" Tenter, 46' Long, Proctor Housing
1—Vertical Set of 10 Copper Dry Cans, 23" x 60" Face

James E. Fitzgerald 10 PURCHASE ST., FALL RIVER, MASS.
Telephone 8-5616
SPECIALIZING IN BLEACHING, DYEING AND FINISHING MACHINERY SINCE 1920

Machine Parts Give Long Life when they're made of *Carpenter* Stainless Tubing



These spindles and perforated dye tubes are wonderful examples of machine parts that reduce your maintenance costs. During their extra long life, they resist corrosion. They are easy to keep clean. And they have the *strength* to withstand continuous use and occasional mishandling by unskilled labor.

For extra protection against equipment down-time, for long equipment life, many machine manufacturers are using Carpenter Stainless Tubing for rolls, rods, tubes, etc.

Get in touch with your equipment manufacturer, or write us about your production problems that might be solved by this corrosion-resistant, strong tubing.

THE CARPENTER STEEL COMPANY
Alloy Tube Division, Union, N. J.
Export Department: The Carpenter Steel Company
Port Washington, N. Y.—"CARSTEELCO."

THE U.S. NEEDS YOUR STEEL SCRAP NOW

Carpenter
STAINLESS TUBING

—guaranteed on every shipment

Authorized distributors in principal cities are qualified to help you get better processing results with Carpenter Stainless Tubing. See your classified telephone directory.

Index to ADVERTISERS Keyed by PRODUCT

A HELP TO YOU. The reader will find that this unique TEXTILE WORLD index, particularly if consulted for two or more consecutive issues, affords a surprisingly complete source of information on the latest products and services available to the textile industry. Its comprehensiveness is the result of the fact that TEXTILE WORLD, having the largest circulation and highest readership of any textile-mill magazine in the world, carries the largest volume of advertising.

HOW TO USE. First, look in the table below and find the letter that designates the class of supply or service that you currently need. Then consult in the index the page numbers that are followed by that letter.

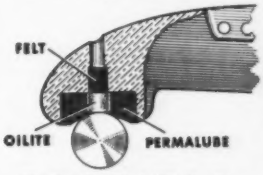
A. Air Conditioning, Air Cleaning
B. Building Construction and Maintenance, Paints, Yard Equipment, Water Supply
C. Chemicals and Dyestuffs
D. Cleaning Equipment
E. Dyeing, Finishing, and Cloth-Room Equipment and Supplies
F. Electrical Equipment—Motors, Controls, Lighting, Etc.
G. Fibers, Yarns, Mills, Finishing Companies
H. Fluid Handling—Compressors, Pumps, Piping, Valves, Fittings
K. Instruments: Measuring, Metering, and Weighing Apparatus
L. Knitting-Mill Equipment and Supplies
M. Lubricants and Lubrication Equipment
N. Management Services—Factors, Consulting Engineers, Insurance, Personnel Facilities, Plant Sites, Etc.
O. Materials for Machinery and Equipment.
P. Materials Handling, Packaging, and Shipping Facilities
Q. Power Generation and Transmission (see also Electrical Equipment)
R. Weaving and Warp Preparation Equipment and Supplies
T. Yarn-Production Winding, and Twisting Equipment and Supplies

An * indicates additional data in the 1951-52 Pre-Filed Textile Catalog. This index is published as a convenience to the reader. Great care is taken to make it accurate, but Textile World assumes no responsibility for errors or ommissions.

Acme Knitting Mach. & Needle Co.	257	L
Akron Spool & Mfg. Co.	263	R
Aldon Spinning Mills	253	G
Alemite Div., Stewart-Warner Corp.	134	M
*Allis-Chalmers Mfg. Co.	33	F, Q
American Air Filter Co., Inc.	195	A
American Crayon Co.	253	E, L, R
American & Efird Mills, Inc.	262	G
*American Lava Corp.	155	L, RT
American Metal Spinning & Stamping Co.	264	E
*American Moistening Co.	201	A
*American Monorail Co.	72	P
American Numbering Mach. Co.	232	E, L, R
American Pulley Co.	203	Q
American Rieter Co., Inc.	27	T
American Viscose Corp.	177	G
Armco Steel Corp.	84	O
*Armstrong Cork Co.	58-59	T
*Arnold, Hoffman & Co.	17	C
*Atkinson, Haserick & Co.	20-21, 22-23, 24-25	T
Atlantic Rayon Corp.	224	G
Atlantic Steel Co.	206	O
Atlas Electric Devices Co.	248	K
*Bahnson Co.	173	A
*Barber Colman Co., Textile Div.	255	R
Barnes Textile Assoc., Inc.	258	N
Bausch & Lomb Optical Co.	214	N
*Becco Sales Corp.	13	C
Bemis Bro. Bag Co.	178	P
Benjamin Electric Mfg. Co.	175	F
*Bersworth Chemical Co.	252	C
Birmingham Committee of 100	202	N
Boger & Crawford	161	G
Borne, Scrymser Co.	171	C
*Boston Woven Hose & Rubber Co.	231	T
Bristol Co., The	34	K
*Buffalo Forge Co.	78	A
Burroughs Adding Machine Co.	12	N
*Butterworth & Sons Co., H. W.	122	E
*Caldwell Co., W. E.	264	B, E
Carborundum Co., The	38	R
Carpenter Steel Co., Alloy Tube Div.	276	O

BETTER SERVICE at LESS COST...
WHITEHEAD *Permalube*
SADDLES and NEBS

Whitehead Permalube Saddles and Nebs, of aluminum alloys, cost no more than old-fashioned iron ones, but they perform better and last a lot longer. Check the money saving, labor saving features of Permalube Saddles and Nebs. You'll understand why more and more mills are changing systematically to Whitehead Permalube products exclusively.



The Bearing That Oils Itself

While provisions are made for oiling the Permalube bearing, many mills find no oiling whatever is necessary. Several mills have been running Permalube Saddles and Nebs for three years without oiling. The advantages are obvious. No oil on the yarn, no sticking to break ends down, no labor to pay for oiling. New wide bearing design gives 50% more bearing area.

FEATURES THAT DEFY COMPARISON

- Years of trouble-free service
- Little or no oiling
- No oil on yarn from top rolls
- Less lint accumulation
- Easier picking—less often
- Very low friction coefficient
- Aluminum bearing holders won't score rolls
- Pivot point permanently adjusted
- Saddle self-aligning. No tilting
- Bearings quickly replaced if ever necessary for only 3c to 5c each

Over 600,000 Spindles now equipped with these self-oiling products

Prompt Delivery of any Saddles and Nebs from Ample Stocks

PATENTED AND MANUFACTURED BY
WHITEHEAD ENGINEERING CO.
522 WEST PEACHTREE STREET, N.W.
ATLANTA 3, GEORGIA

EXCLUSIVE DISTRIBUTORS
Meadows Manufacturing Co.
MURPHY AND ASTOR AVENUES, S.W.
ATLANTA, GEORGIA

*SEE YOUR MEADOWS MAN
ALABAMA, GEORGIA, MISSISSIPPI
Sam Hogg, 1994 McConnell Dr., Decatur, Georgia
SOUTH CAROLINA
J. P. Coleman, Box 3597, Greenville, S.C.
NORTH CAROLINA
Walter Coleman, Box 782, Salisbury, N.C.
TENNESSEE
Ed F. Brown, 417 Dale Ave., Knoxville, Tenn.
NORTHERN REPRESENTATIVE
Matthews Equipment Co.
93A Broadway, Providence, R. I.

For more information, write direct or use Reader Service post card. 277

INDUSTRIAL WASTE TREATMENT

Just Published

1. A practical guide for plant owners, managers, and engineers concerned with the problem of dealing with industrial wastes. Covers the important legal aspects of stream pollution, tells how to secure samples and data, and how to develop and test methods of treatment. Discusses factors of plant design and construction to minimize pollution, and the techniques of reclaiming byproducts from industrial wastes. **By E. B. Besselievre, Chief Sanitary Engineer, International Sales, The Dorr Co. 365 pages, 100 illus., $7.00**

FABRIC DEFECTS

2. A practical guidebook of almost 200 actual case histories of defects in textile materials, with explanations of the contributing factors and suggestions for analysis. Describes principal types of defects occurring in cotton, filament rayon, spun rayon, and blended fabrics. Over 95 original photomicrographs illustrate gray-goods manufacturing defects from raw fiber through weaving—rayon or man-made yarn faults—dyeing and finishing faults—imperfections in finished garments, etc. **By J. B. Goldberg, Research Dir., J. P. Stevens & Co., Inc. 363 pages, 96 illus., $6.00**

COTTON LOOMFIXER'S MANUAL

3. Detailed instructions on the practical setting, adjusting, and timing of modern looms. This guide covers all phases of cotton loom fixing. If you want a complete course in loomfixing, or only a refresher to broaden your knowledge and increase your skill, this book will fit your needs to a "T." It covers such important subjects as left-off, harness, picking, warp-stop, filling-stop, and protector motions; loom construction; filling feelers; cutters; box multiples; shutters, etc. **By Ivar Moberg, Instr. in Weaving, Loomfixing and Designing, Nashua Mfg. Co. 197 pages, 108 illus., $3.50**

QUALITY-CONTROL HANDBOOK

4. Comprehensive handbook presents the whole story of quality control—for basic or advanced review of all phases, not only the statistical—for quick reference to many formulas, data, record forms, and other practical information. Covers economics of quality control; organization for quality; acceptance, control, and assurance of quality; application to specific processes and products. Gives examples and records from actual cases. **Edited by J. M. Juran, Consulting Management Engineer. 768 pages, 6 x 9, 176 illus. $10.00, payable on terms.**

SEE THESE BOOKS 10 DAYS FREE

McGRAW-HILL BOOK COMPANY, 330 W. 42nd St., N. Y. C. 36

Send me book(s) checked below for 10 days' examination on approval. In 10 days I will remit for book(s) I keep, plus few cents for delivery, and return unwanted book(s) postpaid. (We pay for delivery if you remit with this coupon—same return privilege.)

- ☐ 1. Besselierre—INDUS. WASTE TREATMENT, $7.00
- ☐ 2. Goldberg—FABRIC DEFECTS, $6.00
- ☐ 3. Moberg—COTTON LOOMFIXERS' MANUAL, $3.50
- ☐ 4. Juran—QUALITY-CONTROL HANDBOOK, $10.00

($2 in 10 days, $4 a month)

(print)
Name .....

Address .....

City ..... Zone..... State.....

Company .....

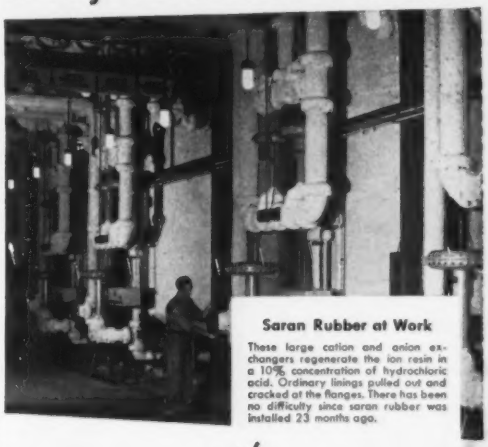
Position TW-7-52

This offer applies in U. S. only.

Carrier Corp.	52	A
*Carter Traveler Co., Div. of Carter Inc., A. B.	280	T
Century Electric Co.	56	F
*Chicago Pneumatic Tool Co.	229	H
Cities Service Oil Co.	166	M
Clark Equipment Co., Industrial Truck Div.	200	P
Clark Mfg. Co.	194	H
Cleveland Worm & Gear Co., The	71	Q
Clipper Belt Lacer Co.	245	Q
C-O-Two Fire Equipment Co.	183	B
*Cole Mfg. Co., R. D.	218	B E
*Coleman Co., Inc.	265	T
Colgate-Palmolive-Peet Co.	14	C
Columbia-Southern Chem. Corp.	42	C
Commonwealth of Pennsylvania Dept. of Commerce	197	N
*Cook-P & N Machine Co., Inc.	132	E
*Crane Co.	80	H
*Crane Mfg. Co.	226	L
*Crompton & Knowles Loom Wks.	44	R
Crucible Steel Co.	69	O
Curlator Corp.	191	T
Cutler-Hammer, Inc.	153	F
Dana Warp Mills	253	G
*Darnell Corp., Ltd.	210	P
*Dary Ring Traveler Co.	234	T
*Davis & Furber Machine Co.	244	T
Dayton Rubber Co., The	46-47	RT
Dexter Chemical Co.	230	C
Dixie Leather Corp.	65	R
*Dommerich & Co., Inc., L. F.	16	N
Dow Chemical Co., Saran Lined Pipe Co.	279	H
*Draper Corporation	1	R
Duesberg-Bosson of Amer., Inc.	247	T
*DuPont de Nemours & Co., Plastics Dept.	43	O
Emerson Apparatus Co.	230	K
Erick-Gross Corp.	192	L
Eriez Mfg. Co.	187	T
Fairbanks, Morse & Co.	233	K
Falls Yarn Mills	224	G
*Fidelity Machine Co.	222	T
*Finnell System, Inc.	30	D
Fiske Bros. Refining Co., Lubriplate Div.	182	M
*Foster Machine Co.	54	T
Foxboro Co., The	236	K
Franklin Process Co.	53	G
Fuller Brush Co.	174	T
Furtex, Inc.	263	F
*Gaston County Dyeing Mach. Co.	145	F
General Chemical Div., Allied Chem. & Dye Corp.	149	C
*General Electric Co.	66-67	F Q
Ginsberg Machine Co., Inc.	216	E
Glasco Equipment Corp.	176	E
Goodyear Tire & Rubber Co.	9	H
Graton & Knight Co.	65	R
*Grinnell Co., Inc.	60	H
*Guider Specialty Co.	238	E
Gulf Oil Corp.—Gulf Refining Co.	57	M
Hardwood Mfg. Co., The	251	T
Harley-Kay-Marsland, Ltd.	214	L
*Haskell-Dawes Mach. Co., Inc.	228	T
*Hayes Industries, Inc.	32	R
*Heim Co.	172	R
Heineman Corp., O., Div. of Aetna Industrial Corp.	260	G
Herbert Products Co.	260	T
Hinde & Dauch Paper Co.	77	P
Hodges Corp., Thos.	193	G
Holdsworth Gill Screw Co.	22-23	T
*Howard Bros. Mfg. Co.	50	T
*Hunter Machine Co., James	48-49	E
*Huyck & Sons, F. C.	256	E
Hyatt Bearings Div., General Motors Corp.	185	Q
*Ideal Industries, Inc.	76	T
Industrial Rayon Corp.	40-41	G
Ingolstadt	39	T
International Salt Co.	211	E
*Ives Co., L. T.	257	L
*Jackson Moistening Co.	247	A
Jenkins Bros.	10	H
*Jiffy Textile Marker Co.	264	F L R

Kalman Floor Co., Inc.	230	B
Keever Starch Co.	159	C
*Kenyon & Son, D. R.	253	E
Kidde & Co., Inc., Walter	205	B
*Kidde Mfg. Co.	213, 235	L
*Lambeth Rope Corp.	243	RT
*Lane & Bros., Inc., W. T.	243	P
*Laurel Soap Mfg. Co., Inc.	220	C
*Leighton Machine Co.	225	L
Libbey-Owens-Ford Glass Co., Fiber-Glass Div.	209	G
*Link-Belt Co.	7	Q
*Lockwood Greene Engineers, Inc.	262	N
*Loper Co., Ralph E.	264	N
*Lowell Shuttle Co.	196	R
Lubriplate Div., Fiske Bros. Refining Co.	182	M
Lunkenheimer Co.	85	H
Maple Flooring Mfrs. Assn.	186	B
Marquette Metal Products Co.	70	T
*Mathieson Chemical Corp.	2	C
M-B Products Co.	259	H
*McCaskie, Inc., Wm.	216	R
McGraw-Hill Book Co.	278	N
*Meese, Inc.	258	P
Mellor, Bromley & Co., Ltd.	184	L
*Merrow Machine Co.	257	I
Michigan Oven Co.	239	E
Micro Switch Div.	55	F
*Milton Machine Works, Inc.	220	R
Minneapolis-Honeywell Reg. Co., Industrial Div.	82-83	K
Micro Switch Div.	55	F
Mobilift Corp.	169	P
Moisture Register Co.	222	K
*Monsanto Chemical Co., Phosphate Div.	128	C
*Nash Co., J. M.	250	D RT
National Aniline Div., Allied Chem. & Dye Corp.	31	C
N. Y. & N. J. Lubricant Co.	68	M
Nopco Chemical Co.	26	C
Oakite Products, Inc.	241	C
*Onyx Oil & Chemical Co.	124	C
Page Fence Association	241	B
Page-Madden Co., Inc.	165	L RT
Parks-Cramer Co.	170	A
Penick & Ford Co., Ltd.	249	C
*Perkins & Sons Inc., B. F.	14	E
Permutit Co.	243	B
Pittsburgh Coke & Chem. Co.	143	C
*Pittsburgh Corning Corp., Foamglas	217	B
*Platt Bros. (Sales) Ltd.	20-21	T
Precision Gear & Machine Co.	259	Q
*Prince, Smith & Stells, Inc.	24-25	T
*Proctor & Schwartz, Inc.	180, 181	E T
*Pure Oil Co., The	45	M
Red Ray Mfg. Co.	256	E
Reliance Electric & Eng. Co.	81	Q
Richmond Oil, Soap & Chem. Co.	228	C
*Riggs & Lombard, Inc.	18	E
*Robert & Co., Associates	2nd Cover	N
*Rohm & Haas Co.	63	C
Rome Soap Mfg. Co.	253	C
*Roy & Son Co., B. S.	245	T
Ryerson & Son Inc., J. T.	212	O
*Saco-Lowell Shops	6, 8	T
Saran Lined Pipe Co.	279	H
*Sarco Co., Inc.	75	H
*Sargent's Sons Corp., C. G.	237	T
Schlafhorst & Co., W.	11	RT
Schlumberger & Cie.	239	T
Seaboard Airline R. R.	207	N
Selig Co., The	249	D
Servo-Tek Products Co.	242	K
Sherwin-Williams Co.	64	B
*Sipp-Eastwood Co.	254	R
Sirrine Co., J. E.	3rd Cover	N
SKF Industries, Inc.	227	Q
*Smith, Drum & Co.	73	E
Smith & Son Inc., Jas.	238	T
Snap-On Tools Corp.	190	B H
Socony-Vacuum Oil Co., Inc.	28-29	M
Solvay Process Div., Allied Chem. & Dye Corp.	219	C
*Sonoco Products Co.	137	T

costly corrosion checked!



Saran Rubber at Work

These large cation and anion exchangers regenerate the ion resin in a 10% concentration of hydrochloric acid. Ordinary linings pulled out and cracked at the flanges. There has been no difficulty since saran rubber was installed 23 months ago.

with SARAN RUBBER TANK LINING

Industries handling, storing or transporting corrosives can lower operating costs and increase the life expectancy of costly equipment by installing saran rubber tank lining. The high degree of both chemical and abrasive resistance makes saran rubber an outstanding lining where resistance to grease, many solvents, acids and other chemicals is required.

Saran rubber can be applied easily, effectively and economically by experienced tank lining applicators located strategically throughout the country. Get in touch with an applicator today by contacting your nearest Saran Lined Pipe Company office.

for tank cars
storage tanks
tank trailers
processing tanks
production tanks

RELATED PRODUCTS

Saran rubber molded parts—stoppers, diaphragms, various-sized moldings for valves, instruments, etc.

Saran lined steel pipe—corrosion-resistant pipe that gives long-term operation with minimum maintenance.

Write to the Distributor:

SARAN LINED PIPE COMPANY

2415 BURDETTE AVENUE • FERNDALE, MICHIGAN

Offices in: New York • Boston • Pittsburgh • Tulsa • Philadelphia • Chicago Portland • Indianapolis • San Francisco • Houston • Denver • Los Angeles • Seattle Cleveland • Charleston, S. C. • Toronto • Montreal

Saran Lined Pipe Company
2415 Burdette Avenue
Ferndale, Michigan

Please send me your catalog on Saran Rubber Tank Lining and Saran Rubber Molding Stocks.

Name _____ Title _____

Company _____

Address _____

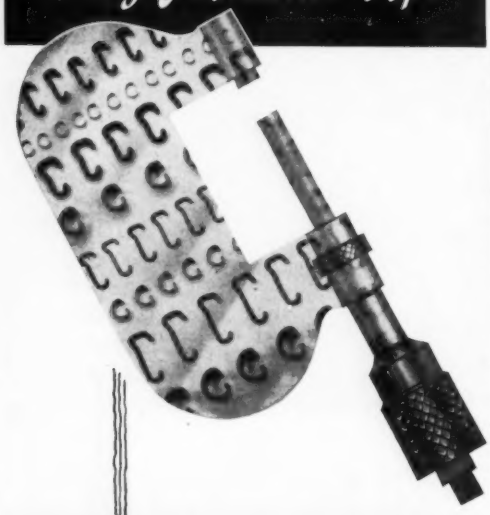
City _____ State _____

SAR-A

SARAN RUBBER a DOW product

For more information, write direct or use Reader Service post card. 279

They Measure Up!



CARTER TRAVELERS

By every yardstick these "jewels of perfection" measure up to the highest quality standards. The absolute uniformity of weight, temper and shape of CARTER TRAVELERS is scientifically controlled by a modern metallurgical laboratory.

That means smooth running work, long trouble-free performance and less wear on expensive rings.

JEWELS OF PERFECTION

CARTER TRAVELER COMPANY
DIVISION OF
A. B. CARTER, INC.
GASTONIA, N. C.

REPRESENTATIVES

R. A. HAYNES, Special Representative, 114 W. Fifth Ave., Gastonia, N. C.
W. L. RANKIN . . . . . 501 S. Chester St., Gastonia, N. C.
P. L. PIERCY . . . . . 128 Hudson St., Spartanburg, S. C.
J. R. RICHIE . . . . . 3014 Lewis Farm Road, Raleigh, N. C.
J. W. BROWN . . . . . P. O. Box No. 560, LaGrange, Ga.
J. K. DAVIS . . . . . P. O. Box No. 129, Auburn, Ala.
HUGH WILLIAMS & CO. . . . . 47 Colborne St., Toronto 1, Canada

*Southern Shuttles Div., Steel Heddle Mfg. Co.	188	R
Square D Co.	163	F
Standard-Coosa-Thatcher Co.	15	G
*Standard Fabricators, Inc.	199	E
*Standard Pressed Steel Co.	261, 265	O
Steelcote Mfg. Co.	241	B
*Steel Heddle Mfg. Co.	188	R
Stein-Hall	223	C
*Stop-Motion Devices Corp.	245	L
Sun Oil Company	120	C
Superior Combustion Industries, Inc.	249	Q
*Supreme Knitting Mach. Co., Inc.	147	L
*Synthane Corp.	157	T
Taylor-Stiles & Co.	240	T
Texas Co., The	4th Cover	M
Texnovo, S.P.A.	253	R
Textile Banking Co.	130	N
*Textile Machine Works	86, 139	L
Toledo Scale Co.	208	K
*Tompkins Bros. Co.	218	L
Torrington Co., The (Needles)	35	L
Torrington Co., The (Bearings)	36	Q
Tower Iron Works	204	E
Turbo Machine Co.	3	L
Turner Transfer	212	N
*Twin Disc Clutch Co.	198	Q
Tyer Rubber Co.	247	E
*U. S. Ring Traveler Co.	226	T
U. S. Rubber Co., Mechanical Goods Div.	179	T
Textile Div.	246	G
U. S. Testing Co.	224	N
Unionmatex, Textilmaschinen-Union, G. M. B. H.	37	E RT
*Universal Winding Co.	150	T
Utica Novelty & Mill Spec. Co.	261	E
Vacuum Can Co.	237	N
*Van Vlaanderen Machine Co.	126	E
*Veeder-Root, Inc.	61	K
WAK Industries	262	K
*Walker Div. of Draper Corp.	141	R
*Warner & Swasey Co.	79	T
*Wayne Mfg. Co.	226	T
Western Felt Works	19	L RT
Westinghouse Electric Co., Sturtevant Div.	189	A
West Point Fdry. & Mach. Co.	62	R
Whitehead Eng'g. Co.	277	T
*Whitin Machine Wks.	51	L
Wildman Mfg. Co.	221	L
Wood's Sons Co., T. B.	251	Q
*Wyandotte Chemicals Corp.	215	C

PROFESSIONAL SERVICES

Barnes Textile Associates 258
Eaton & Bell 275
Kuljian Corp. 275
Lockwood, Greene & Co. 262
Loper & Co., R. E. 264
Robert & Co. Associates. Second Cover
Sirrine & Co. J. E. ..... Third Cover

SEARCHLIGHT SECTION
(Classified Advertising)
H. E. Hilty, Mgr.

EMPLOYMENT
Positions Vacant 266
Positions Wanted 266
Employment Services 266

BUSINESS OPPORTUNITIES
Offered 266, 267

PROPERTY
For Sale 267
Wanted 266

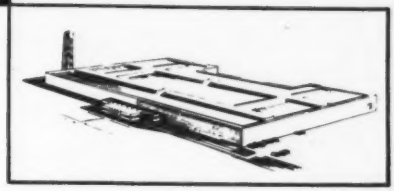
EQUIPMENT
(Used or Surplus New)
For Sale 267-275

WANTED
Equipment 267
Miscellaneous 266, 267

ADVERTISERS INDEX

Allied Textile Printers Inc. 267
American Air Compressor Corp. 268
Barber, Hartman & Co. 267
Bialek & Co., Theodore 272
Blank Co., Inc., A. & M. 270
Blank, Moe 273
Bresani, Joseph 274
Broomfield, Paul M. 272
Chemical Service Corp. 267
Chicopee Manufacturing Corp. .. 275
Collins & Aikman Corp. 271
Consolidated Products Co., Inc. 272
Courtaulds (Alabama) Inc. 266
Eastern Textile Co. 273
Fitzgerald, James E. 275
Gaines Textile Machinery Co., Inc. 270
Gale, C. J. 266
Garlock Packing Co. 275
Industrial Products of America . 274
L & M Weaving Corp. 274
Lewith Machinery Corp., Wilson 272
Machinery Liquidating Co. 268
McCaffrey & Son, Inc., L. J. .. 270
McCloskey Inc., John J. 271
McDowell Associates, Inc. 269
McKittrick Co., Inc., Frank G. W. 271
Miller Machinery Co. 270
New England Products Co. 267
Pabst Brewing Company 267
Pennsylvania Spool & Equipment Co. 273
Pilgrim Badger & Label Corp. .. 272
Rabinowitz & Sons, Wm. 271
Raymond Service Inc., Chas. ... 266
Republic Textile Equipment Co. 268
Shaffer & Max, Inc. 270
Speizman Co., Inc., Morris 268
Stave & Kessler 274
Textile Auxiliaries 275
Textile Finishers Equipment ... 273
Triangle Processing Machinery Co., Inc. 275
Warren-Fabrics Co. 267
Wheeler Co., Frank W. 275

From Fibre to Fabric—



—The *Engineer* plans for your progress and preparedness

Every step in your process from fibre to fabric—from any raw material to finished product—can be critical if not correctly done. If planned and integrated with your needs, it's but a stepping stone on a smooth path to market.

Today's planning needs go far beyond the technical requirements of the product—equally important are the human elements that far-sighted management and the Engineer work to make an integral part of every business plan. So wise management looks to the Engineer to help weave progress and preparedness into the fabric of the future.

Engineers for 50 years... **J. E. SIRRINE COMPANY**

GREENVILLE • SOUTH CAROLINA

A DEPARTMENTALIZED ENGINEERING ORGANIZATION SERVING WORLD-WIDE INDUSTRY

REDUCE POWER CONSUMPTION MAINTENANCE COSTS BEARING REPLACEMENTS

...with TEXACO REGAL STARFAK

WHEREVER you have high-speed, grease-lubricated, anti-friction bearings, lubricate them with *Texaco Regal Starfak*. You'll find that bearings last longer, maintenance costs are lower, and power consumption is less. That's because *Texaco Regal Starfak* gives better protection than any ordinary grease.

Premium-quality *Texaco Regal Starfak* has exceptionally high stability and resistance to oxidation. It stands up under severe operating conditions and is little affected by temperature changes. *Texaco Regal Starfak* stays *in* the bearings, assuring longer lasting protection . . . lower maintenance costs. And its low starting and running torques eliminate drag, thus reducing power consumption.

For top roll and loom lubrication, use *Texaco Stazon*. It won't splatter, creep or drip; assures cleaner yarn and fabric. For fibre conditioning, use *Texaco Texspray*. It assures more long staple, more uniform count.

Let a Texaco Lubrication Engineer show you how effective lubrication can help you increase production and reduce your costs. Just call the nearest of the more than 2,000 Texaco Distributing Plants in the 48 States, or write The Texas Company, 135 East 42nd Street, New York 17, N. Y.

TEXACO Lubricants

FOR THE TEXTILE INDUSTRY

Faithfully yours

50

for Fifty Years